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Volume 1 of 2: Storage Report

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TERMS

AEA	*Atomic Energy Act*
AOC	area of contamination
ATG	Allied Technology Group, Inc.
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CWC	Central Waste Complex
CY	calendar year
DOE	U.S. Department of Energy
DST	double-shell tank
DU	depleted uranium
Ecology	Washington State Department of Ecology
EIS	environmental impact statement
ERDF	Environmental Restoration Disposal Facility
ETF	Effluent Treatment Facility
FFTF	Fast Flux Test Facility
HLV	high-level vault
HLW	high-level waste
HWTU	Hazardous Waste Treatment Unit
ID	identification code
LAW	low-activity waste
LDR	land disposal restrictions
LERF	Liquid Effluent Retention Facility
LLCE	long-length contaminated equipment
LLMW	low-level mixed waste
LLW	low-level waste
MLLW	mixed low-level waste
O/C	organic/carbonaceous
ORP	U.S. Department of Energy, Office of River Protection
PCB	polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PMWT	potential mixed waste table
PNNL	Pacific Northwest National Laboratory
PUREX	Plutonium Uranium Extraction (process)
RCRA	*Resource Conservation and Recovery Act of 1976*
REC	radiochemical engineering cell
REDOX	Reduction Oxidation (process)
RH	remote handled
RL	U.S. Department of Energy, Richland Operations Office

ROD	record of decision
SST	single-shell tank
SWIFT	Solid Waste Integrated Forecast Technical (Report)
TBD	to be determined
Tri-Party Agreement	*Hanford Federal Facility Agreement and Consent Order*
TRU	transuranic (waste)
TRUM	transuranic mixed (waste)
TSCA	*Toxic Substances Control Act of 1976*
TSD	treatment, storage, and/or disposal
WAC	*Washington Administrative Code*
WERF	Waste Experimental Reduction Facility
WESF	Waste Encapsulation and Storage Facility
WIPP	Waste Isolation Pilot Plant
WRAP	Waste Receiving and Processing (facility)
WSRd	waste specification record
WSS	waste specification system

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CALENDAR YEAR 2000 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS STORAGE REPORT VOLUME 1, STORAGE REPORT

1.0 INTRODUCTION

This volume presents information about the storage and minimization of mixed waste and potential sources for the generation of additional mixed waste. This information is presented in accordance with *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al. 1996) Milestone M-26-01K. It is Volume 1 of a two-volume report on the status of Hanford Site land-disposal-restricted mixed waste, other mixed waste, and other waste that the parties have agreed to include in this report. This volume also contains the approval page for both volumes and assumptions, accomplishments, and some other information that also pertains to waste characterization and treatment, which are addressed in Volume 2. Appendix A lists the land disposal restriction (LDR) reporting requirements and explains where they are addressed in this report. The reporting period for this document is from January 1, 2000, to December 31, 2000.

1.1 SOURCES AND ORGANIZATION OF WASTE STORAGE DATA

This report presents information on waste streams that are reported either as a matter of law or as a result of discussions between the U.S. Department of Energy (DOE), the Washington State Department of Ecology (Ecology), and the U.S. Environmental Protection Agency (EPA). Waste streams reported as a matter of law include mixed waste in storage subject to the storage prohibition of Title 40 *Code of Federal Regulations* (CFR) Part 268.50. *Washington Administrative Code* (WAC) 173-303-140, "Dangerous Waste Regulations," incorporates the federal rule by reference. EPA guidance (EPA 1990) indicates which mixed waste is subject to the storage prohibition. Other waste streams, both mixed and nonmixed, are being reported under the Tri-Party Agreement Milestone M-26-01 as a result of discussions held between DOE, Ecology, and EPA.

Mixed waste is not subject to the storage prohibition until it is generated and managed in a 90-day accumulation area or treatment, storage, and/or disposal (TSD) unit, or until it leaves a *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) area of contamination. Although mixed waste managed in a 90-day accumulation area is not considered stored, the EPA has indicated that the storage prohibition clock begins when mixed waste is managed in the 90-day accumulation area. Mixed waste is reported here as forecast waste when it meets the following criteria.

- It has not been generated and therefore is not subject to the storage prohibition.

- It is managed in either a satellite accumulation area or a 90-day accumulation area.

This year's mixed waste storage report contains much more data about individual generator waste streams than previous reports. In the Interim LDR Report, submitted in July 2000 (RL 2000), mixed waste data were aggregated into waste streams based primarily on treatment criteria. While the current report provides aggregate data based on a set of waste treatability groups similar to what the Interim LDR Report presented, it also provides the detailed data on location-specific sources of waste. The waste from these sources is included in the appropriate treatability groups. More information about the rationale for the design of treatability groups for this report can be found in Volume 2, "Hanford Site Mixed Waste Characterization and Treatment Plan."

Treatability group data sheets describe the characteristics that the location-specific waste sources share. They also provide total waste volume data from the associated location-specific data sheets for both the currently stored inventory and the waste projected to be generated. The location-specific data sheets describe how, where, and how much waste is stored and present information about the waste's disposition.

Appendix B provides location-specific data sheets for each waste stream, sorted by treatability group. Each location-specific data sheet was completed by staff knowledgeable about that waste stream. Mixed waste currently in satellite accumulation areas and in 90-day accumulation areas is not considered current stored inventory, but is included as forecast waste generation. The content and format of waste stream data sheets and the process for collecting waste storage data are discussed in the following paragraphs.

Table 1-1 lists the names of the treatability groups used in this report and the major sources of waste in each group. Because highly detailed location-specific waste stream data are included in the current report, summary data on waste treatability groups has been aggregated. The waste group identification codes (ID) listed in Table 1-1 are the same as were reported in the Interim LDR Report, except as follows.

- With one exception, the subcategories of the mixed low-level waste (MLLW) categories reported in the Interim LDR Report have been rolled into the existing higher level category. For example, MLLW-01A and MLLW-01B are now rolled into MLLW-01. The exception is that MLLW-04A and MLLW-04B are still separate, but have been redefined to better reflect waste treatment requirements.

- MLLW-08, Greater Than Class 3 Waste, and MLLW-07, M-91 Remote-Handled MLLW, reported in the Interim LDR Report have been combined in this report because of their similar treatment requirements.

- Two new MLLW categories have been added this year to better reflect waste treatability. They are MLLW-09, Lead-Acid and Cadmium Batteries, and

MLLW-10, Reactive Metals. The waste had been accounted for in the Interim LDR Report as part of other aggregated waste stream categories.

- Transuranic (TRU) waste streams have been regrouped. Seven transuranic mixed (TRUM) waste categories were used in the Interim LDR Report. TRUM-01 through TRUM-06 have been recombined into four new groups based on waste processing. Note that the fourth of these new groups, TRU-PCB includes polychlorinated biphenyl (PCB)-contaminated TRU waste; some of this group is not mixed waste. TRUM-07, reported in the Interim LDR Report and relabeled "K Basin Sludge" in this report for clarity, also is a PCB-contaminated waste that is not considered mixed waste. Data on PCB-contaminated, nonmixed waste are included in this report to assist in evaluating storage and treatment capacity available for managing mixed waste.

The following treatability groups have been added to this year's report:

- **ERDF**. Mixed waste destined for direct disposal at the Environmental Restoration Disposal Facility (ERDF)
- **ERDF Treatment**. Mixed waste requiring treatment before disposal at the ERDF
- **LERF/ETF Liquid Waste**. Liquid mixed waste from various Hanford Site processes sent to the Liquid Effluent Retention Facility (LERF) or the Effluent Treatment Facility (ETF) for treatment
- **Purgewater Storage and Treatment Facility**. Purgewater from well drilling, sampling, and maintenance.

Other materials, items, etc., currently at the Hanford Site that might be designated as mixed waste some time in the future are included in the report for the first time this year and are referred to as potential mixed waste. They are described in Section 2.3 and are listed in Appendix C.

Table 1-1. Treatability Groups.

ID	Name	Major Waste Sources
221-T RCRA Tank System	T Plant Complex Waste	Waste resulting from decontamination activities at the 221-T and 2706-T Buildings; some additional waste from other Hanford Site locations
222-S T8 RH MLLW	222-S Laboratory Complex T8 Tunnel Waste	Waste piping removed from aqueous waste service. Formerly used to transfer waste from the laboratory to the waste tank system

Table 1-1. Treatability Groups.

ID	Name	Major Waste Sources
324 Building Radiochemical Engineering Cell Waste	324 Building Radiochemical Engineering Cells	High-activity radioactive waste containing toxic heavy metals generated during research and development activities since the mid-1960's and the processing of 324 Building's high-level vault waste
618-4 DU/Oil Drums	Depleted Uranium in Oil from 618-4 Burial Ground	Drums of depleted uranium metal chips, turnings, cuttings, and sludges immersed in oil, found in the 618-4 Burial Grounds
B Plant	B Plant Containment Building Storage	Process jumpers and equipment from B Plant Complex processes stored in the B Plant Complex canyon deck and in process cells
B Plant Cell 4 Waste	B Plant Complex Cell 4 Waste	Drums of Waste Encapsulation and Storage Facility hot cell maintenance waste placed in storage from 1988 to 1997
Cesium and Strontium Capsules	Cesium and Strontium Capsules	CsCl salt and SrF_2 salt reclaimed from DST and SST systems mixed waste
DST Waste	Double-Shell Tank System Waste	Widely varying waste from chemical separations processes (e.g., PUREX, PFP, and cesium and strontium separations) and related support facilities operating from 1970 to date
ERDF	ERDF	Waste streams from CERCLA remediation destined for direct disposal at ERDF
ERDF—Treatment	ERDF—Treatment	Spent resins and lead-contaminated waste from CERCLA remediation requiring treatment before disposal at ERDF
K Basin Sludge	K Basin Sludge	PCB-contaminated non-RCRA TRU waste sludge from underwater spent nuclear fuel storage
LERF/ETF Liquid Waste	LERF/ETF Liquid Waste	Liquid waste sent to the LERF and ETF for treatment from various Hanford Site processes
MLLW-01	LDR-Compliant Waste	Inorganic salt waste, excavated soil, and contaminated equipment that currently meets disposal criteria and regulatory requirements for disposal
MLLW-02	Inorganic Non-Debris	Inorganic particulates, absorbed liquids and sludges, paint waste, salt waste, and aqueous laboratory packs from various generators
MLLW-03	Organic Non-Debris	General organic solids and laboratory packs
MLLW-04A	Organic/Carbonaceous Debris	Organic plastic, rubber, and heterogeneous debris
MLLW-04B	Non-Organic/ Noncarbonaceous Debris	Current and past-practice waste, including metals, concrete, asbestos, and heterogeneous debris
MLLW-05	Elemental Lead	Elemental lead and lead shielding

Table 1-1. Treatability Groups.

ID	Name	Major Waste Sources
MLLW-06	Elemental Mercury	Elemental mercury from various sources
MLLW-07	M-91 MLLW	Remote-handled and oversized contact-handled MLLW generated at the Hanford Site
MLLW-09	Lead-Acid and Cadmium Batteries	Spent radioactive lead-acid and cadmium batteries
MLLW-10	Reactive Metals	Reactive metal waste from FFTF and other sources
PNNL-HWTU Waste	PNNL Laboratory Waste	Laboratory waste generated by research and analytical activities conducted by PNNL. This waste stream was managed in satellite and 90-day accumulation areas and subsequently was transferred to the 325 HWTU for storage and/or treatment. Waste is or was generated by active, ongoing projects at PNNL.
PUREX Containment Building Waste	PUREX Containment Building Waste	Chromium-contaminated debris from the E-Cell floor currently stored in F-Cell of the PUREX Containment Building
PUREX Storage Tunnel Waste	PUREX Storage Tunnel Waste	Equipment and waste containing mercury, lead, silver, cadmium, chromium, barium, and mineral oil from PUREX and other processes
Purgewater Storage and Treatment Facility	PSTF	Purgewater generated from pump-and-treat operations, well drilling, groundwater sampling, and well maintenance from all across the Hanford Site
SST Waste	Single-Shell Tank System	Waste from spent nuclear fuel processing and related support facilities operating between 1944 and 1980
T Plant EC-1 Condenser	T Plant Complex EC-1 Condenser	A condenser from the 242-A Evaporator now stored at the T Plant Complex
TRUM-BOX	M-91 T Plant TRUM, Large Boxed[1]	TRUM waste in large boxes, slated for M-91 processing, from the 324 Building and/or other sources
TRUM-CH	WRAP TRUM[1]	Contact-handled TRUM waste (includes PFP waste)
TRUM-RH	M-91 T Plant TRUM, Remote-Handled[1]	TRUM waste, slated for M-91 processing

Table 1-1. Treatability Groups.

ID	Name	Major Waste Sources
TRU-PCB	PCB TRUM and/or PCB TRU, Contact-Handled[1]	TRU mixed and nonmixed waste that has been contaminated with regulated levels of PCBs

[1]These streams include both mixed and nonmixed TRU waste. Mixed and nonmixed TRU waste categories use the same storage and treatment capacity and are not always distinguishable before characterization.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC 9601, et seq, as amended.

Resource Conservation and Recovery Act of 1976, 42 USC 6901, et seq., as amended.

CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*	PFP	Plutonium Finishing Plant
		PNNL	Pacific Northwest National Laboratory
		PSTF	Purgewater Storage and Treatment Facility
CH	contact handled	PUREX	Plutonium-Uranium Extraction Facility
DST	double-shell tank	RCRA	*Resource Conservation and Recovery Act of 1976*
DU	depleted uranium		
ERDF	Environmental Restoration Disposal Facility	REDOX	Reduction-Oxidation (facility or process)
		RH	remote handled
ETF	Effluent Treatment Facility	ROD	record of decision
FFTF	Fast Flux Test Facility	SST	single-shell tank
HWTU	Hazardous Waste Treatment Unit	TRUM	transuranic mixed
LERF	Liquid Effluent Retention Facility	TSD	treatment, storage, and/or disposal
MLLW	mixed low-level waste	WIPP	Waste Isolation Pilot Plant
PCB	polychlorinated biphenyl		

Table 1-2 is a comprehensive list of waste streams that were included in any previous LDR report, but are not included in this report, along with the reason the waste stream is no longer reported.

Table 1-2. Streams No Longer Applicable to Report. .

Stream Name	*Waste source*	Reason
183-H Solar Evaporation Basins waste	Containerized solids retrieved from 183-H Solar Evaporations Basins, generated from 300 Area fuel fabrication waste from 1973 to 1985.	Unit is in post-closure care. Process waste inventory is now stored at CWC and reported as part of that inventory.
PNNL-305B	Waste generated from PNNL laboratory and facility operations.	Storage activities at 305-B no longer meet the definition of a "waste stream" subject to the report. Waste stored is reflected in location-specific date sheets and reflected in the appropriate CWC waste stream description.
4843 Sodium Storage Facility Waste	Waste sodium from FFTF operations.	Significant amounts of alkali metal waste are no longer generated. This inventory is stored at the CWC and reported as part of that inventory.

Table 1-2. Streams No Longer Applicable to Report.

Stream Name	Waste source	Reason
Hexone Waste	Hexone that had been planned for use in the 202-S solvent extraction process.	Hexone has been incinerated off Site at Diversified Scientific Services, Inc., Kingston, Tennessee. (Small amounts of waste continue to be generated from surveillance and maintenance of the emptied tanks that were used to store the hexone. This waste is involved in the MLLW-04A treatability group.)
PUREX Facility Ammonia Scrubber Waste	Waste generated from sorption of gaseous ammonia from fuel processing operations at the PUREX Plant.	Waste no longer generated. Inventory in DST system.
PUREX Facility Process Condensate	Condensed vapors from the PUREX Plant operations.	Waste no longer generated. Inventory in DST system.
PUREX Plant Aging Waste	First extraction-column fission products from the PUREX Plant.	Waste no longer generated. Inventory in DST System.

CWC Central Waste Complex
DST double-shell tank
FFTF Fast Flux Test Facility
PNNL Pacific Northwest National Laboratory
PUREX Plutonium Uranium Extraction (plant or process)

1.2 STORAGE REPORT DATA COLLECTION PROCESS

A central database was developed for managing these data. Data were collected based on the physical location of the stored mixed waste and input into the database using location-specific data sheets. Volumes reported as stored inventory on the location-specific data sheets were automatically summed and presented as the storage information for the associated treatability group inventory. An analogous automatic summation was performed for projected waste generation rates. Appendix B contains the data sheets, along with the following information:

- A description of the fields in the data sheets
- A figure (Figure B-1) to explain the relationship between the types of data sheets
- An index (Table B-1) to help find individual data sheets
- Groupings of treatability group data sheets followed by each treatability group's associated location-specific data sheets.

1.3 SCHEDULE AND MECHANICS OF PLAN UPDATE

The LDR report is designated as a primary document in accordance with the *Tri-Party Agreement Action Plan*, Section 9.0, "Documentation and Records," and is updated annually in accordance with Tri-Party Agreement Milestone M-26-01. Each annual update will be issued as a complete replacement that completely supersedes the previous year's LDR report. Proposed milestones and/or modifications to existing workscope will be identified and processed using the existing processes contained in the *Tri-Party Agreement Action Plan,* Section 9.0 and Section 12.0, "Changes to the Agreement," and not as part of the annual LDR report review and approval process. Modifications to non-Tri-Party Agreement workscope may be made using errata sheets or may be incorporated in the next annual LDR Report update. The decision to issue errata sheets or to incorporate the modification in the next annual update will be made jointly by DOE and Ecology. Modification to Tri-Party Agreement milestones listed in the LDR report will be incorporated into the next annual LDR report update and will not be issued as errata sheets. The annual report revisions will consist of the following:

- Updating mixed waste inventories and generation rates to reflect current operating plans and schedules
- Updating treatment plans and schedules to reflect changes and refinements to defined mixed waste treatments and treatment schedules
- Revising waste stream characterizations to reflect the results of additional sample analyses or process changes
- Updating the compliance status of the TSD units to reflect completion of pending compliance assessments and permitting activities
- Reporting completed compliance assessments for TSD units and summarize LDR-related observations and findings
- Reevaluating the adequacy of the capacity of current TSD units for storing LDR mixed waste
- Adding new or proposed milestones and revise existing milestones, as applicable
- Reporting changes in the management, treatment, storage, and/or disposal of mixed waste required by changes in federal policy or regulations as applied to the DOE complex
- Reflecting budget guidance and availability on operating plans and schedule
- Adding LDR mixed waste streams identified as mixed waste; add waste that will be generated in the 5-year span for the LDR Report; add potential mixed waste as it is identified.

1.4 ASSUMPTIONS

This section lists key assumptions used to prepare this report. The assumptions could apply to either or both volumes of the report.

- This LDR Report is the Hanford Site's equivalent to the Site Treatment Plans produced for other DOE sites as required under the *Federal Facilities Compliance Act of 1992*.

- For tank waste, the pretreatment methods to be developed will include acceptable technology to separate the tank waste into LLW and high-level waste (HLW) streams so the bulk of chemical waste is in the low-activity stream and the bulk of radionuclides are in the high-activity stream.

- Pretreated waste from DST and SST Systems will be provided to the LLW and HLW vitrification facilities, using selective blending if necessary.

- For tank waste, it is assumed that a treatability variance will be in place for the low-activity fraction and a delisting petition will be in place for the vitrified high-level fraction.

- The level of cyanides and organics in DST and SST Systems waste received from pretreatment will be treatable by vitrification. The glass waste forms either will comply with leachability requirements or appropriate variances will be obtained.

- Space in the DST System will be available to support DST and SST waste management activities.

- Liquid waste from the SST System will continue to be transferred to the DST System as part of the stabilization program for the SST System.

- Process condensate from the 242-A Evaporator and hazardous wastewater from other sources, including liquid effluents from tank waste pretreatment and vitrification, will continue to be treated in the 200 Area Effluent Treatment Facility (ETF).

- Volumes of any containerized waste to be received from offsite generators for storage in the CWC or another location will be consistent with the planning in this report. Additional mixed waste volumes not in the current baseline could affect storage space availability and treatment capacity, but are not planned for in this report.

- Waste stream data sheets (Appendix B) include information representing the basis for this storage report. The waste stream data sheets include a 5-year projection of waste volume (2001 through 2005, for this report). Projections of waste volume for years beyond this span are beyond the scope of this report. They will be presented in applicable future LDR reports.

- The existing and proposed milestones contained in the LDR Report are based on expected funding and are contingent on Congressional budget actions. If funding is reduced or reprioritized, the ability to conduct and complete workscope will be affected. To address these changes, changes to Tri-Party Agreement milestones will be made using Section 12.0 of the Tri-Party Agreement Action Plan (not as a part of the review and approval of the annual LDR update). Dates that are not part of the Tri-Party Agreement, but are included in the LDR Report will be processed using the proposed LDR Non-Tri-Party Agreement Milestones and Commitments change control process described in Section 8.0 of the Tri-Party Agreement.[1] The three agencies intend to issue one report annually in accordance with the requirements of Tri-Party Agreement Interim Milestone M-26-01.

1.5 ACCOMPLISHMENTS

This section lists accomplishments that could apply to either or both volumes of this report. Waste minimization accomplishments are listed in Section 6.2.

For MLLW, the following are some specific accomplishments from calendar year (CY) 2000:

- Treated 1204 m^3 of waste at the Allied Technology Group, Inc. (ATG) facilities by stabilization, which, when combined with past treatment, completed Tri-Party Agreement Milestone M-019-00. Milestone M-019-00 instructs DOE to complete treatment and/or direct disposal of at least 1644 m^3 of contact-handled and newly generated LLMW already in storage as of October 1, 1995, as well as newly generated Hanford Site LLMW. Milestone M-019-00 was accomplished 2 years ahead of schedule

- Sent 96 drums of tank farm debris to the Waste Experimental Reduction Facility (WERF) during September of 1998. The waste was segregated (nonincinerables from incinerables) at WERF during June and July of 1999. The incinerable waste was incinerated during August through October 1999. The nine drums of incinerated waste residue (hearth and bottom ash) along with the nine drums of nonincinerable waste (inorganic debris) were returned to the Hanford Site on February 29, 2000. Eight of the drums of nonincinerables were shipped to ATG during FY 2001 for

[1] From the Tri-Party Agreement, Paragraph 153: "If appropriate funds are not available to fulfill DOE's obligations under this Agreement, the Parties shall attempt to agree upon appropriate adjustments to the workscope or milestones which require the payment or obligation of such funds. If no agreement can be reached then Ecology and DOE agree that in any action by Ecology to enforce any provision of this Agreement, DOE may raise as a defense that its failure or delay was caused by the unavailability of appropriated funds. Ecology disagrees that lack of appropriations or funding is a valid defense. However, DOE and Ecology agree and stipulate that it is premature at this time to raise and adjudicate the existence of such a defense."

macroencapsulation; most of these had been treated and returned as of May 15, 2001. The nine drums of ash are scheduled to be shipped to ATG for stabilizations of the underlying hazardous constituents (cadmium and lead) during FY 2001; shipment is anticipated during May 2001. The single remaining nonincinerable waste package is residing at T Plant for correction of a verification failure

- Disposed of 670 m^3 of waste in the Hanford mixed waste trenches
- Processed 88,000 m^3 of regulated wastewater through the 200 Area Effluent Treatment Facility (ETF)
- Disposed of 5500 m^3 of mixed waste in the Environmental Restoration Disposal Facility (ERDF)

For TRU, the following are some specific accomplishments from CY 2000:

- Began shipping waste to the Waste Isolation Pilot Plant (WIPP); completed 5 shipments containing a total of 36 m^3 of waste. None of this was mixed waste
- Continued processing waste in the Waste Receiving and Processing (WRAP) Facility with 225 m^3 of TRU waste passing through nondestructive assay and 149 m^3 through nondestructive examination. Less than one-third of this waste was mixed waste
- Completed the project management plan for TRU waste to address the large boxes and remote-handled waste (Tri-Party Agreement Milestone M-091-05-T01)
- Continued retrieval of suspect-TRU drums from the Low-Level Burial Grounds (LLBG) with the retrieval of 437 drums (Tri-Party Agreement Milestone M-091-04)
- Established new Tri-Party Agreement milestones to prepare the T Plant Complex to receive K Basin floor and pit sludge.

For HLW, the following are some specific treatment-related accomplishments for CY 2000:

- Established a contract for designing, constructing, and commissioning the Hanford Tank Waste Treatment and Immobilization Plant (WTP).
- The Canister Storage Building was completed; its initial loading was K Basin spent fuel.

2.0 SUMMARY STORAGE DATA

2.1 SUMMARY INVENTORY OF WASTE TREATMENT GROUPS AND FORECAST GENERATION RATES

The volume of mixed waste currently in storage and the volume projected to be generated during the next 5 calendar years are presented in Table 2-1. These data are summarized from the treatability group data sheets and location-specific data sheets found in Appendix B.

The forecast generation rates represent the current best estimates of future waste generation for each LDR treatment group, or the quantity of mixed waste that will be added to the treatment, storage, and/or disposal (TSD) units. These estimates are developed by the generating facilities or programs based on an evaluation of operating schedules, past operational history, and projections of future waste-generating activities. The generation projections could be higher or lower than the actual generation values because of changes in process technologies and practices, waste treatment, production schedules, or waste minimization activities.

These data may differ from data found elsewhere, particularly in the *Solid Waste Integrated Forecast Technical (SWIFT) Report* (FH 2000). The SWIFT data are updated semiannually. Differences between the data represented in this report and SWIFT data may be caused by the timing of data collection or different groupings of waste. Estimates will be adjusted at different times as more complete knowledge is attained, but estimates are not exact.

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
221-T RCRA Tank System	T Plant Complex waste	Liquid mixed waste with settled solids/sludge (waste also contains PCBs at TSCA regulated concentrations	74.0	0	0	0	0	0	None
222-S T8 RH-MLLW	222-S Laboratory Complex T8 Tunnel Waste	Debris that has come into contact with waste from the 219-S WHF tank system. The debris is designated as RH MLLW as a result of this contact.	0.2	0	0	0	0	0	None
324 Bldg. Radiochemical Engineering Cell Waste	324 Building Radiochemical Engineering Cells	High activity radioactive waste containing regulated quantities of toxic heavy metals. The dispersible material was generated from the research activities from 1965 to 1987. The filters were generated from the treatment of HLV tank waste. Some mixed waste residue will be generated from the future REC clean out and deactivation. WSRd 20J-00.	50.0	50.0	10.0	1.2	1.8	1.4	M-89-02, M-92-14, M-92-15, and M-92-16
618-4 DU/Oil Drums	Depleted Uranium in Oil from 618-4 Burial Ground	Depleted uranium chips, turnings, cuttings, and sludges immersed in oil discovered in a burial ground being excavated under a CERCLA ROD. The 618-4 Burial Ground was operated from 1955 to 1961. No information is available about history or source of the waste.	55.0	0	56.0	0	0	0	M-16-03F for disposal.
B Plant	B Plant Containment Building Storage	This category consists of failed equipment (e.g., process jumpers, pumps, etc.) used in the 221-B canyon. Contaminated debris or equipment derived from the processing of "F" listed waste for the recovery of strontium and cesium. Also contains elemental lead used for counterbalances and shielding.	294,000 kg	0	0	0	0	0	B Plant is under long-term surveillance and maintenance in accordance with Chapter 8 of the Tri-Party Agreement.

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
B Plant Cell 4 Waste	B Plant Complex Cell 4 Waste	WESF hot cell maintenance waste (i.e., manipulator boots, light bulbs, HEPA filters, miscellaneous debris).	1.4	0	0	0	0	0	B-Plant is under long-term surveillance and maintenance in accordance with Section 8 of the Tri-Party Agreement
Cesium and Strontium Capsules	Cesium and Strontium Capsules	Cesium and strontium were removed from tank farm waste, separated and purified at B Plant, and converted to dry salt for storage at WESF. The cesium and strontium capsules were generated as waste in 1997 with the application for a Part A, Form 3 permit. The waste consists of 1,335 capsules of cesium salts and 601 capsules of strontium salts. The capsules are stored in pool cells at WESF.	2.0	0	0	0	0	0	None

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
DST Waste	Double-Shell Tank System Waste	Basic aqueous solution that may contain suspended material and/or settled solids (sludge and saltcake). DST waste is treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Waste has been stored in the DST System since 1970.	80,180	13,600	6160	4867	1334	10,060	M-62-00, Complete Pretreatment Processing/ Vitrification; M-90-00, M-91-00, and M-92-00, Acquisition of New Facilities, M-43-00, Tank Farm Upgrades; M-48-00 (Proposed) Tank Integrity; M-47-00, Waste Feed Delivery; M-46-00, Tank Space Evaluation; M-20 series, Permitting; and M-44-00, Characterization
ERDF	ERDF (waste not requiring treatment)	Remediation waste generated from excavation of waste sites, D&D, and monitoring and treatment of groundwater. ERDF Waste is generated pursuant to records of decision or other CERCLA authorization and requires no treatment.	37.0	3930	3733	3570	3545	3515	Not applicable. Waste is directly disposed of in ERDF.
ERDF—Treatment	ERDF—Treatment	This is mixed waste contaminated with lead or chromium that requires treatment before disposal at ERDF.	50.0	442.0	418.0	399.0	399.0	399.0	M-16

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
K Basin Sludge	K Basin Sludge	The sludge was generated over several years in association with the storage of fuel in the 105 K basins. The sludge has yet to be generated as waste and is considered PCB contaminated rather than mixed.	0	0	0	15.0	15.0	20.0	M-91-01
LERF/ETF Liquid Waste	LERF/ETF Liquid Waste	CERCLA and RCRA Aqueous Wastewater	40,790	80,660	80,660	84,220	77,290	83,010	NA -- Groundwater remediation is being performed under the 200-UP-1 Interim Record of Decision
MLLW-01	LDR-Compliant Waste	This waste consists of soil (dirt, sand, gravel, rocks, etc.), debris, other particulates, and solidified liquids. All waste forms are anticipated to contain LDR-compliant levels of dangerous waste constituents. The waste is packaged in drums and boxes. Subject waste also includes the LLCE items forecast to be received from SST and DST systems. The WSRds for this waste are SOW, BLS, TFS, 502 (200LEF only), 903, 930, and 931.	1338	22.4	22.2	22.2	22.2	22.2	None

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
MLLW-02	Inorganic Non-Debris	This waste consists of inorganic solids (e.g., particulates, absorbed liquids, sludges, resins, soils) and lab packs contaminated with regulated metals and other inorganics. This treatability group includes hazardous debris only as incidental debris commingled with the non-debris. The primary source for the existing stored inventory is from the closure of the 183-H Solar Evaporation Basins. The applicable WSRds are ALI, HHG, IXI, LPI, PAI, SSA, H3C, H3M, H3S, 420, 421, 425, 426, 428, 429, 44A, 500(183-H only), 500-0, 500-1, 504-0, 505(except 505-3), 521, 523, 525, 801, 812, 820, 821, 82A, 830, 900, 902, 904, 90A.	2954	15.3	13.8	11.2	17.9	17.8	None
MLLW-03	Organic Non-Debris	This waste consists of inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, resins, soil) and lab packs contaminated with organic regulated dangerous waste constituents, including PCBs. This waste contains no hazardous debris other than incidental material commingled with the non-debris. WSRds are ALO, LPA, LPO, PAO, TSC, 300, 301, 302, 303, 304, 305, 310, 311, 320, 321, 330, 331, 31A, 400, 401, 402, 403, 404, 405, 406, 407, 408, 40A, 40B, 427, 430, 431, 432, 45A, 47A, 500 (except 183H), 501-2, 502 (except 200LEF), 503-2, 504-1, 505-3, 506, 507, 50A, 700, 701, 720, 721, 822, 920, 921, 922, 923.	701.2	25.1	22.7	26.2	27.5	32.2	None

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
MLLW-04A	Organic/Carbonaceous Hazardous Debris	This treatability group is for waste that meets the definition of hazardous debris found in 40 CFR 268.2 and the waste contains physical and/or chemical constituents that would be considered to meet the definition of organic/ carbonaceous waste as defined in WAC 173-303-040. The physical characteristics include paper, plastic, wood, rubber, rags, and lesser quantities of metallic and inorganic waste components. Applicable WSRds may include ASB, BLD, DBR, DBL, H3D, SOC, SOE, 600, 601,603, 605, 606, 607, 60A, 60B, 620, 621, 622, 640, 641, 645, 646, 647, 315, 334, 625, 626, and 627.	1817	138.8	133.8	139.0	144.5	151.1	None
MLLW-04B	Non-Organic/ Non-Carbonaceous Debris	The physical characteristics include metals, inorganic debris items, and lesser quantities of O/C waste components (paper, plastic, wood, etc.) Applicable WSRds may include ASB, BLD, DBR, DBL, H3D, SOC, SOE, 600, 601, 603, 605, 606, 607, 60A, 60B, 620, 621, 622, 640, 641, 645, 646, 647, 315, and 334.	247.6	142.0	140.2	148.8	162.7	176.4	None
MLLW-05	Elemental Lead	This treatability group contains forms of radioactive lead solids including bricks, sheets, shot-filled blankets, and lead-lined debris items where the lead makes up more than 50% of the waste matrix. The waste was and is generated by many onsite locations and offsite generators. Applicable WSRds for this treatability group are EPB, 800, 801, 803.	365.5	23.1	24.5	22.7	21.1	16.3	None

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
MLLW-06	Elemental Mercury	This treatability group consists of liquid mercury, partially amalgamated mercury, mercury spill cleanups, and some debris waste items packaged with the mercury waste. WSRds are EHG, 810, 811.	9.1	0.3	0.2	0	0.9	0.2	None
MLLW-07	M-91 MLLW	This treatability group consists of RH MLLW with various chemical (organics, inorganics, metals) and physical (particulates, debris, sludge, etc.) characteristics. The primary waste type is heterogeneous debris from the SST/DST systems operations. WSRds are HRW, 601, 605, 606, 800, and 801.	71.1	28.0	151.0	338.0	305.0	279.0	None
MLLW-09	Lead-Acid and Cadmium Batteries	This waste consists of lead-acid and cadmium batteries from various onsite locations and offsite generators. WSRds are BAT, 802, and 830.	6.1	0.01	0.01	0.2	3.6	0.2	None
MLLW-10	Reactive Metals	This waste consists of water-reactive metals and compounds, typically including sodium metal. WSRds are ENA, 820, 822.	1.0	0.6	0.3	0.3	0.3	0.3	None
PNNL-HWTU Waste	PNNL Laboratory Waste	This treatability group consists of many different inorganic and organic solids and liquids contaminated with regulated dangerous waste constituents. It also consists of hazardous debris. WSRds are 400, 401, 402, 403, 404, 420, 421, 422, 500, 501, 503, 504, 505, 521, 523, 524, 525, 627, 647, 800, 820, 822, 830, 923, 930.	1.5	19.6	14.3	14.3	14.3	14.3	None

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
PUREX Containment Bldg. Waste	PUREX Containment Building	This treatability group consists of concrete rubble contaminated with trace chromium as a corrosion product.	1.0	0	0	0	0	0	PUREX is under long-term surveillance and maintenance under Section 8 of the Tri-Party Agreement
PUREX Storage Tunnel Waste	PUREX Storage Tunnels	This treatability group varies from very large equipment vessels with lead counterweights to very fine powder in canisters.	2800	0	0	0	0	0	None
PSTF	Purgewater Storage and Treatment Facility	Groundwater contaminated with uranium, technetium, carbon tetrachloride, and nitrates.	0	100.6	100.6	100.6	100.6	100.6	None
SST Waste	Single-Shell Tank System	Basic aqueous slurry with layers of saltcake and/or sludge. The sludge consists of solids (i.e., hydrous metal oxides) precipitated from the neutralization of acid waste. The saltcake consists of the various salts formed from the evaporation of water.	127,400	0	0	0	0	0	M-44-00, Characterization M-45-00, SST Retrieval; M-20, Permitting; M-62-00, Complete Pretreatment Processing/ Vitrification; and M-90-00, M-91-00, and M-92-00, Acquisition of New Facilities
T Plant EC-1 Condenser	T Plant complex EC-1 condenser	This treatability group consists of a large piece of steel equipment contaminated with listed mixed waste.	32.1	0	0	0	0	0	None

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
TRUM-BOX	M-91 T Plant TRUM, large boxed	The waste contains iron-based metal, plastic/polyurethane, wood, paper, filters, soil, miscellaneous, unknown, or other constituents, rags, lead, Plexiglas[2], Styrofoam[3], anti-corrosive radpad, asbestos, rubber, glass, absorbent/kitty litter, cement, and concrete in oversized containers.	152.2	0	0	0	0	0	M-91-01
TRUM-CH	WRAP TRUM	The waste contains plastic/polyurethane, rubber, iron-based metal, soil, paper, cardboard, lead, rags, cement, stainless steel, wood, styrofoam, glass, conweb pads, absorbent/kitty litter, filters, lead shielding, universal polypropylenes, anti-corrosive radpad, carbon steel, Fiberglas[4], brick/firebrick, plastic liner, shielding, concrete, animal waste, paints, ceramics, sludges, asbestos, aluminum, sand equipment, diatomaceous earth, resins, copper metal, lead, water, floor sweeps, batteries, leather, liquid, teflon, cork, cotton/Kotex[5], light bulbs, urethane, and wax.	223.6	349.9	352.5	365.7	658.6	766.4	None
TRU-PCB	PCB TRUM and/or PCB TRU, CH	The waste contains metal, plastic, wood, lead, oils (hydraulic fluid), paper, conweb pads, glass (crushed fluorescent tubes), concrete, rags, absosrbent/kitty litter, rubber, universal polypropylenes, soil, and tape and rope all contaminated with PCBs.	80.0	0.6	1.3	0	0	0	M-91-01
TRUM-RH	M-91 T Plant TRUM, RH	The waste consists of inner-container, iron-based metals, lead, soil, lead shielding, and steel shielding. Waste is from clean-out of hot cells from reaearch and development laboratories.	15.0	0	3.6	0	0	0	M-91-01

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

ID	Name	Description	Current Inventory (m^3)[1]	Generation Projection 2001 (m^3)	Generation Projection 2002 (m^3)	Generation Projection 2003 (m^3)	Generation Projection 2004 (m^3)	Generation Projection 2005 (m^3)	Storage Milestones
Total (without B Plant for current inventory only) (Total may not be exact because of rounding)			259,455	99,548	92,018	94,261	84,064	98,582	

[1]Units of measure are cubic meters except as noted for B Plant Containment Building Storage, which is in kilograms.
[2]Plexiglas is a trademark of Rhom and Haas Company.
[3]Styrofoam is a trademark of Dow Chemical Company.
[4]Fiberglas is a trademark of Owens Corning.
[5]Kotex is a trademark of Kimberly Clark Corporation.

Waste specification record (WSRd) indicates a waste's treatment and/or disposal pathway.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC 9601, et seq.

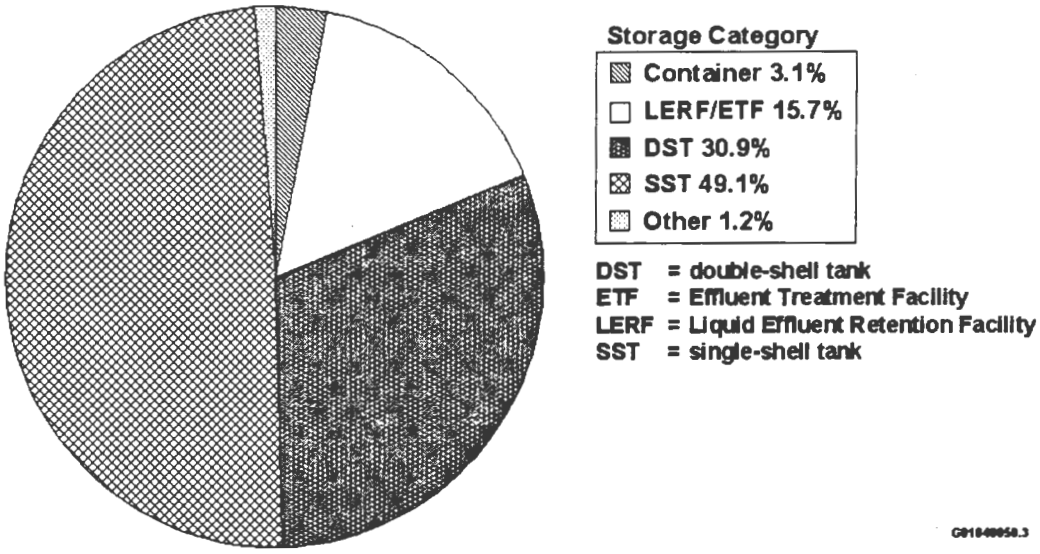
Resource Conservation and Recovery Act of 1976, 42 USC 6901, et seq.

AOC	area of contamination
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CFR	*Code of Federal Regulations*
CH	contact-handled
CWC	Central Waste Complex
DST	double-shell tank
Ecology	Washington State Department of Ecology
ETF	Environmental Treatment Facility
HLV	high-level vault
HWTU	hazardous waste treatment unit
LAW	low-activity waste
LDR	land disposal restrictions
LERF	Liquid Effluent Retention Facility
LLCE	Long-length contaminated equipment
LLW	low-level waste
MLLW	mixed low-level waste
PCB	polychlorinated biphenyl
PFP	Plutonium Finishing Plant
RCRA	*Resource Conservation and Recovery Act of 1976*
REC	Radiochemical Engineering Cell
RH	remote handled
ROD	record of decision
SST	single-shell tank
TRU	transuranic
TRUM	transuranic mixed
TSCA	*Toxic Substances Control Act of 1976*
WAC	*Washington Administrative Code*
WESF	Waste Encapsulation and Storage Facility
WSRd	Waste Specification Record
WSS	Waste Specification System

2.2 SUMMARY INVENTORY BY STORAGE METHOD AND LOCATION

Storage methods are summarized in Figure 2-1. Information in the figure reflects waste and storage data as of December 31, 2000. These totals do not include waste in accumulation areas. The category "Other" includes all waste not stored in containers, DSTs, or SSTs or waste at the LERF/ETF (e.g., PUREX Storage Tunnel Waste).

Figure 2-1. Storage Method Summary.



2.3 POTENTIAL MIXED WASTE

The potential mixed waste table (PMWT) (Appendix C) includes materials that have not yet been generated as mixed waste and waste that has not been actively managed as mixed waste. The materials included are those that reasonably could be expected to be generated as mixed waste at some future time. The materials included in the PMWT (equipment, piping, etc.) are those that currently are not being used and do not have a clear path for reuse or recycling. The waste that has not been actively managed as mixed waste is, in many cases, past-practice units, either as RCRA or CERCLA, under the Tri-Party Agreement. Past-practice waste is waste that was abandoned before the first effective LDR date in Washington State, August 19, 1987. Classification of waste management units as RCRA or CERCLA past-practice units is described in Section 3.0 of the Tri-Party Agreement Action Plan. When cleanup actions occur in the operable unit of the Tri-Party Agreement for these RCRA or CERCLA past-practice units, mixed waste could, or is expected to be, generated during remediation

activities. The PMWT also includes a similar category of materials currently in standby for a potential future use. The table was developed for the following reasons:

- To acknowledge that materials may become mixed waste at a future date
- To begin identifying data gaps (e.g., whether the material would be designated as mixed waste) and negotiation schedules to establish a path forward toward disposition for those materials eventually identified as mixed waste
- To provide an estimate of the amount of these materials so that, should they be determined to be mixed waste, storage and treatment capacities can be developed to address them.

As a result of discussions with Ecology and EPA, the following categories of materials have not been included in the PMWT.

- Generated mixed waste. This mixed waste is included in treatability group and location-specific data sheets in Appendix B of this LDR report.
- Contaminated soil sites, cribs, ponds, ditches, trenches, etc. considered engineered disposal units. [However, they would be included in an LDR report location-specific data sheet (Appendix B) when management or disposition activities associated with those units are expected to result in the generation of mixed waste in the next 5 years.]
- The building structures themselves, including contaminated walls, floors, floor sweepings, dust, etc. Building equipment, such as ventilation system components and building utilities, that would be considered part of the structure also are not included.
- Equipment and chemicals being used.

The PMWT includes information on the assessments performed or scheduled to demonstrate that material is in a condition protective of human health and the environment. See Chapter 3 for more information about assessments.

The PMWT also includes known and proposed schedule information. This information can include the following, as applicable:

- Schedule of when the materials are expected to be managed as waste
- Operable units that encompass the facility or unit
- Existing documentation and milestones that show plans for the material
- Existing or proposed dates for filling data gaps (e.g., characterization) and for beginning negotiations on a path forward for the material. The understanding is that these dates are subject to change to reflect changes in funding levels.

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3.0 COMPLIANCE ASSESSMENTS OF MIXED WASTE AND POTENTIAL MIXED WASTE STORAGE AREAS

3.1 INTRODUCTION

The DOE conducts assessments of mixed waste storage areas and other areas that could, in the future, be the source of generation of other mixed waste. DOE assessments include reviewing other independent assessments and inspections and contractor self-assessments. In addition, daily, weekly, monthly, quarterly, and annual contractor assessments and inspections are conducted at Hanford Site mixed waste storage areas in accordance with company policy, DOE requirements, permit conditions, and other compliance obligations. DOE provides an additional level of review for the results of contractor management and oversight activities to ensure that all necessary program elements are in place and functioning appropriately.

Of the findings and observations that were made from DOE assessments in CY 2000, no indicators requiring global actions for LDR reporting were identified.

3.2 ASSESSMENT SCHEDULES

RL scheduled eight assessments in calendar year (CY) 2000. All eight assessments were completed as scheduled. The findings from these assessments are summarized in Table 3-1.

Table 3-1. Summary of RL Assessment Results.

Assessment Location	Assessment Number	Assessment Conduct Dates	Findings and Observations
600 Area Purgewater Storage/Treatment	A&E-00-ASS-068	8/7/2000-8/24/2000	One finding: The contractor management assessment program needs improvement. Issues identified included inadequate operating procedures and procedure noncompliances concerning sampling and level measurement in the tanks.
305-B Storage Facility	A&E-00-ASS-069	8/28/2000-8/31/2000	One observation: Inadequate line management oversight.
200 Area Effluent Treatment Facility	A&E -00-ASS-070	9/11/2000-9/14/2000	One finding: Inadequate training program procedures relating to failure to identify training within 6 months of being hired as required by RCRA permit.
Liquid Effluent Retention Facility (LERF)	A&E-00-ASS-071	9/18/2000-9/26/2000	One finding: Inadequate training program procedures relating to failure to identify training within 6 months of being hired as required by RCRA permit.
T Plant	A&E-00-ASS-072	Week of 10/10/2000	No findings or observations related to storage compliance.
242-A Evaporator	A&E-00-ASS-073	10/23/2000-10/26/2000	One observation: Lack of documentation for waste designation relating to disposal of used personnel protective equipment potentially contaminated with mercury.

Table 3-1. Summary of RL Assessment Results.

Assessment Location	Assessment Number	Assessment Conduct Dates	Findings and Observations
241-Z Treatment and Storage Tanks	A&E-00-ASS-074	11/13/2000-11/20/2000	One finding: Lack of contractor management assessment at 241-Z relating to errors in waste receipt records. This issue has been observed to be corrected..
B Plant	A&E-00-ASS-075	12/11/2000-12/15/2000	No findings and no observations.

DOE U.S. Department of Energy
LERF Liquid Effluent Retention Facility
RL U.S. Department of Energy, Richland Operations Office

Table 3-2 lists the locations where RL plans to conduct assessments in CYs 2001 through 2003:

Table 3-2. RL Assessments for CYs 2001 through 2003.

Facility	Completion Date	Facility	Completion Date
PFP (241-Z)	February 2001	Building 324	June 2002
PFP (All)	May 2001	Building 340	July 2002
222-S Laboratory	May 2001	Burial grounds/basins (200 Area, except LLBG)	October 2002
WRAP	June 2001	300 Area, General	November 2002
PUREX Tunnel	July 2001	400 Area	February 2003
224-T	August 2001	PUREX	March 2003
CWC	September 2001	B Plant	April 2003
WESF	September 2001	REDOX	May 2003
LLBG	October 2001	209E	June 2003
Building 325	October 2001	T Plant	July 2003
Building 3720	February 2002	S Plant	September 2003
Building 314	April 2002	Burial grounds (300 Area)	October 2003
Building 327	May 2002		

CWC Central Waste Complex
LLBG low-level burial grounds
PFP Plutonium Finishing Plant
PUREX Plutonium Uranium Extraction
REDOX Reduction-Oxidation (Plant)
WESF Waste Encapsulation and Storage Facility
WRAP Waste Receiving and Processing

The U.S. Department of Energy, Office of River Protection (ORP) was scheduled to conduct eight assessments in CY 2000. All eight assessments were completed. Individual assessments are listed in Table 3-3 and are documented in one assessment report. Table 3-4 shows where the ORP plans to conduct assessments for CY 2001 through 2003.

Table 3-3. Summary of ORP Assessment Results.

Assessment Location[1]	Assessment Number	Assessment Conduct Dates	Findings and Observations
River Protection Project Tank Farms Summary	NA	September – December 2000	One finding and three observations related to storage compliance[2]
T Tank Farm, 242-T Evaporator, TX-302-B/C, 244-TX	A-01-OPD-TANKFARM-011	9/12/2000	One finding and three observations related to storage compliance[2]
TX and TY Farms	A-01-OPD-TANKFARM-011	9/18/2000	One finding and three observations related to storage compliance[2]
S., SX and SY Farms, 242-S, 244-S, S-304	A-01-OPD-TANKFARM-011	10/5/2000	One finding and three observations related to storage compliance[2]
U Tank Farm, 244-U, UX-302-A, U-301-B	A-01-OPD-TANKFARM-011	10/19/2000	One finding and three observations related to storage compliance[2]
B, BX, and BY Tank Farms, 244-BX	A-01-OPD-TANKFARM-011	11/3/2000	One finding and three observations related to storage compliance[2]
New Cross-Site Transfer Facilities, EW-151, ER-311/151/152/153, 6241-A/V, 244-A	A-01-OPD-TANKFARM-011	12/21/2000	One finding and three observations related to storage compliance[2]
A, AX, AY, and AZ Tank Farms, A-350, AZ-151, A-417, AZ-154	A-01-OPD-TANKFARM-011	12/7/2000	One finding and three observations related to storage compliance[2]
C Tank Farm, Grout Facility, 272-AW, A-302-A, 801-C	A-01-OPD-TANKFARM-011	12/21/2000	One finding and three observations related to storage compliance[2]

[1]On review of inspection reports documenting calendar year 2000 ORP inspections, adequate documentation of inspection of the following tank farm tanks, diversion boxes, and other facilities was not found: 244-U, EW-151, ER-311, ER-151/152, ER-153, 244-A, A-350, AZ-151, AZ-154, A-417, S-304, A-302-A, and 272-AW. As a result, ORP reinspected these tank farm facilities in 2001; no additional findings or observations related to storage compliance resulted.

[2]Finding. The contractor needs to develop a management plan defining how reusable equipment will be managed to ensure all LDR requirements are met. The management plan should describe the resources needed to implement the plan.

Observation: The miscellaneous facilities, tanks, and components (FTC) related to past tank farm operations are classified as either RCRA Past-Practice/CERCLA or are considered part of the inactive SST System. Additional waste characterization and knowledge of facility configuration is needed for closure of the FTCs. The contractor should delineate a path forward for the RCRA Past-Practice/CERCLA FTCs and inactive FTCs within the SST System and ensure that appropriate surveillance and monitoring are being conducted.

Observation: The contractor has a plan and system in place to manage environmental requirements and implementing policies, plans, and procedures. The contractor should clarify the environmental function's role in helping to develop the database and provide the status of database development.

Observation: It is not clear how the requirement for submittal of a 30-day report under 40 CFR 265.196(d) for a release to the environment that is greater than 1 lb and less than the reportable quantity is proceduralized.

CERCLA *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CFR *Code of Federal Regulations*
LDR land disposal restrictions
ORP U.S. Department of Energy, Office of River Protection
RCRA *Resource Conservation and Recovery Act of 1976*
SST single-shell tank

Table 3-4. ORP Assessments for CYs 2001 through 2003

Facility	Completion Date	Facility	Completion Date
Single-Shell Tanks	December 2001	DCRT 244-S	December 2002
Double-Shell Tanks	December 2001	272 AW	December 2002
Cesium Unloading Station (Bldg 801C)	June 2002	U Tank Farm	May 2003
BY Tank Farm	July 2002	T/TX/TY Tank Farms	June 2003
BX Tank Farm	August 2002	AX Tank Farm	August 2003
SY Tank Farm	September 2002	AZ Tank Farm	September 2003
AW Tank Farm	October 2002	A Tank Farm	October 2003
244-AR Vault	November 2002	AY Tank Farm	November 2003
DCRT 244-U	December 2002	204 AR Vault	December 2003

4.0 POTENTIAL STORAGE ISSUES

4.1 STORAGE CAPACITY

Potential storage capacity issues are addressed in Item 2.4 of the location-specific data sheets (Appendix B) and are summarized in the following paragraphs.

4.1.1 Bechtel Hanford, Inc.

The only waste currently being stored long term by the Bechtel Hanford, Inc., Richland Environmental Restoration Project is at B Plant and the PUREX Plant. The waste is stored in those TSD units with lead regulator-approval of the facility-specific long-term surveillance and maintenance plans in accordance with Section 8.0 of the Tri-Party Agreement Action Plan. The plans do not allow for storage of any additional waste in those TSD units. ERDF does not have the capability to store waste. Before being transported to ERDF for disposal, waste inventory that is included in this report accounts for waste that is destined for ERDF and is being stored by the generator. There is no projected need for additional Bechtel Hanford, Inc., storage capacity.

4.1.2 CH2M HILL Hanford Group, Inc.

Annually, in accordance with Tri-Party Agreement Milestone M-46-00, an evaluation is performed to determine available tank capacity and capacity needs for future years. This evaluation looks at waste receipts to the DST System for the past 12 months and makes projections based on trends that appear. A computer simulation of Site operations (incoming waste projections and outgoing waste) is performed, which results in projections of tank fill schedules, tank transfers, evaporator operations, tank retrieval, and aging waste tank use. During this evaluation, the three parties to the Tri-Party Agreement, Ecology, EPA, and DOE, determine whether new tanks need to be built. Current estimates indicate that the storage capacity of the DST system could be reached by 2010, depending on the sequence and rate of retrieval for waste currently stored in SSTs and on evaporator operations. Table 4-1 summarizes storage capacities and current volume stored.

Table 4-1. Potential Storage Capacity Issues.

Waste Name	Tank Farm	Estimated Storage Capacity per farm (m^3)	Current Amount of Stored Waste (m^3)	Year Capacity Could be Reached/Bases and Assumptions
DST Waste	241-SY	13,000	10,000	2010[1]
DST Waste	241-AY	7000	7000	2010[1]
DST Waste	241-AY	7000	3000	2010[1]
DST Waste	241-AW	26,000	15,000	2010[1]
DST Waste	241-AP	35,000	24,000	2010[1]

Table 4-1. Potential Storage Capacity Issues.

Waste Name	Tank Farm	Estimated Storage Capacity per farm (m^3)	Current Amount of Stored Waste (m^3)	Year Capacity Could be Reached/Bases and Assumptions
DST Waste	241-AN	30,000	21,000	2010[1]
	Total	118,000	80,000	

[1]This date is for the tank farms as a system and depends on the evaporator runs and the schedule/order of waste retrieval from SSTs

The reported storage capacities include only those tanks that are allowed to receive waste. Tanks that are still on the Watch List (Public Law 101-510) are not allowed to receive waste and, therefore, are not included in the reported capacities for the tank farms. When tanks are removed from the Watch List, they will be evaluated to determine whether their capacity may be used to store additional waste.

4.1.3 Fluor Hanford, Inc.

The Solid Waste Projection Model is a discrete event simulation model; it is used to project the TSD requirements of the Hanford Site's radioactive and mixed solid waste management program. The model combines current waste inventories and forecasts of future waste receipts with baseline planning assumptions to determine TSD unit requirements throughout the anticipated life of the TSD units. The amount of waste is estimated using the following input:

- Amount of waste type in storage
- Amount of waste type sent for processing
- Amount of waste type disposed of
- Amount of waste type shipped off Site for disposal.

The resulting estimates are used to make decisions about future TSD needs. For example, if the amount of waste in storage were projected to exceed the current capacity, planning for additional storage capacity could begin, and/or changes could be made to the baseline treatment and disposal schedules to reduce the projected storage requirement.

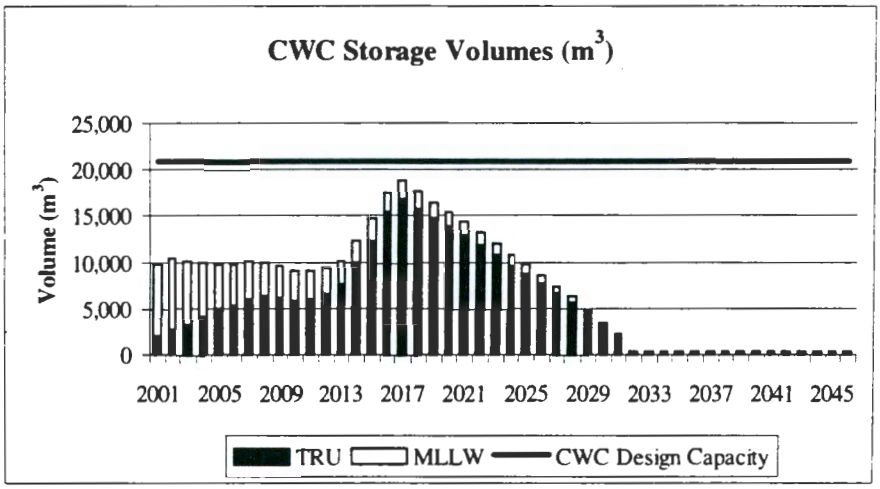
The model is reviewed and updated frequently enough to ensure that the appropriate assumptions for waste treatment and facility capabilities and schedules, and therefore storage capacity, are adequate to effectively manage mixed waste. When changes occur in programmatic assumptions in response to budgetary or regulatory changes, the model is run again using the new assumptions.

The Hanford Site maintains a system for forecasting the amount of radioactive waste, including mixed waste, to be generated well into the future. This system is known as the Solid Waste Integrated Forecasting Technical (SWIFT) Report. Input to this system is maintained in a database that is updated periodically by all waste generators.

Significant changes to the input must be reported. These changes are evaluated for impact on the storage facilities as required.

Based on the projections to date, information on active FH-managed TSD units in this report indicates that no requirements for additional storage capacity exist within the 5-year forecast period and beyond. Figure 4-1 shows projected CWC waste storage versus capacity.

Figure 4-1. CWC Waste Storage Versus Capacity.



4.1.4 Pacific Northwest National Laboratory

The Pacific Northwest National Laboratory (PNNL) uses the SWIFT reporting system to project storage requirements. Based on the projections to date, no requirements for additional storage capacity for PNNL-managed TSD units exist within the 5-year forecast period and beyond.

4.2 ISSUES AND THEIR RESOLUTION

No storage issues were identified to report for CY 2000. Storage capacity issues identified and resolved in the future will be reported in the year following their resolution.

4.3 PLANNED VARIANCES OR EXEMPTIONS FOR STORAGE

Requests for variances and other exemptions related to storage would be addressed in Item 2.10 of the location-specific data sheets (Appendix B). No requests for variances have been identified.

4.4 KEY STORAGE ASSUMPTIONS

Key assumptions related to storage, inventory, and generation information are addressed in Item 2.12 of the location-specific data sheets (Appendix B).

5.0 WASTE RELEASES FROM STORAGE

Known releases from mixed waste storage units into the environment are subject to reporting in this report, whether or not the release was cleaned up. The only waste releases from storage to the environment have occurred from the SST System. Table 5-1 lists the names and locations of the SST farms and the number of tanks in each farm.

Table 5-1. Single-Shell Tank System.[a]

200 East Area		200 West Area	
Farm	Number of Tanks	Farm	Number of Tanks
A	6	S	12
AX	4	SX	15
B	16	T	16
BX	12	TX	18
BY	12	TY	6
C	16	U	16

[a] The capacity of the tanks ranges from 210 m^3 to 3,800 m^3.

These tanks contain waste that was placed into the system between 1944 and 1980. The waste was generated as a byproduct of processing spent nuclear fuel to recover plutonium, uranium, and neptunium, and consists of radioactive and chemically hazardous waste. Except for cooling water, nothing has been added to the SSTs since 1980. Table 5-2 lists the Hanford Site SST system releases. No releases have been documented during this reporting period (CY 2000).

Table 5-2. Hanford Site Single-Shell Tank Releases.[a]

Tank	Volume (m^3)	Leak Reported	Tank	Volume (m^3)	Leak Reported
241-A-103	21	1987	241-SX-107	<19	1964
241-A-104	2 to 10	1975	241-SX-108	9 to 133	1962
241-A-105	38 to 1,048	1963	241-SX-109	38	1965, 1996
241-AX-102	11	1988	241-SX-110	21	1976
241-AX-104[b]	—	1977	241-SX-111	2 to 8	1974
241-B-101[b]	—	1974	241-SX-112	114	1969
241-B-103[b]	—	1978	241-SX-113	57	1962
241-B-105[b]	—	1978	241-SX-114[b]	—	1972
241-B-107	30	1980	241-SX-115	189	1965
241-B-110	38	1981	241-T-101	28	1992
241-B-111[b]	--	1978	241-T-103	< 4	1974

Table 5-2. Hanford Site Single-Shell Tank Releases.[a]

Tank	Volume (m^3)	Leak Reported	Tank	Volume (m^3)	Leak Reported
241-B-112	8	1978	241-T-106	435	1973
241-B-201	5	1980	241-T-107[b]	--	1984
241-B-203	1	1983	241-T-108	< 4	1974
241-B-204	2	1984	241-T-109	< 4	1974
241-BX-101[b]	—	1972	241-T-111	< 4	1979, 1994
241-BX-102	265	1971	241-TX-105[b]	—	1977
241-BX-108	10	1974	241-TX-107	10	1984
241-BX-110[b]	—	1976	241-TX-110[b]	—	1977
241-BX-111[b]	—	1984	241-TX-113[b]	—	1974
241-BY-103	<19	1973	241-TX-114[b]	—	1974
241-BY-105[b]	—	1984	241-TX-115[b]	—	1977
241-BY-106[b]	—	1984	241-TX-116[b]	—	1977
241-BY-107	57	1984	241-TX-117[b]	—	1977
241-BY-108	<19	1972	241-TY-101	< 4	1973
241-C-101	76	1980	241-TY-103	11	1973
241-C-110	8	1984	241-TY-104	5	1981
241-C-111	21	1968	241-TY-105	133	1960
241-C-201	2	1988	241-TY-106	76	1959
241-C-202	2	1988	241-U-101	114	1959
241-C-203	2	1984	241-U-104	208	1961
241-C-204	1	1988	241-U-110	19 to 31	1975

Table 5-2. Hanford Site Single-Shell Tank Releases.[a]

Tank	Volume (m^3)	Leak Reported	Tank	Volume (m^3)	Leak Reported
241-S-104	91	1968	241-U-112	32	1980
241-SX-104	23	1988			
Total range[c] 2862 to 4022 m^3					

[a] After some tanks were declared to be leaking, water may have been added to aid evaporative cooling. It is believed that some of this water did not evaporate, but went into the ground. Estimates range from 190 m^3 to 3,000 m^3. The volumes provided and date of initial release are the subject of continued evaluation and refinement; the numbers may be revised for improved accuracy as a result of the evaluation process. In addition, documents show that from 1946 to 1966, 456,700 m^3 (120,661,000 gal) of liquid waste were intentionally discharged from SSTs directly to the ground on the 200 Area plateau (Waite 1991). The majority of this waste was discharged from 1946 to 1958 as a result of the early plutonium and uranium recovery processes conducted in the 221-B Facility (B Plant), the 221-T Facility (T Plant), and the 221-U Facility (U Plant). In addition, from 1960 to 1966 laboratory waste from the 300 Area and equipment decontamination waste from the 200 West Area were routed through SSTs before being discharged to the ground. No waste has been discharged to the ground from SSTs intentionally since 1966, and no waste has ever been discharged directly to the ground from the newer DSTs located at the Hanford Site.

[b] Individual release volumes for these tanks have not been determined. The total volume release from these tanks is estimated to be 570 m^3.

[c] The total leak volume is presented as a range because some of the individual leak volumes were reported as ranges.

Hanlon, B. M., 2001, *Waste Tank Summary Report for Month Ending December 31, 2000*, HNF-EP-0182-153, CH2M HILL Hanford Group Inc., Richland, Washington.

Waite, J. L., 1991, *Tank Wastes Discharged Directly to the Soil at the Hanford Site*, WHC-MR-0227, Westinghouse Hanford Company, Richland, Washington.

DST = double-shell tank
SST = single-shell tank

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6.0 HANFORD SITE MIXED WASTE MINIMIZATION PROGRAM DESCRIPTION

The *Hanford Site Waste Minimization and Pollution Prevention Awareness Program Plan* (Program Plan) (Place 2001) provides waste minimization and pollution prevention direction and guidance for all Hanford Site contractors. The Program Plan specifies the requirements Hanford Site contractors must meet to prevent pollution from entering the environment, to conserve resources and energy, and to reduce the quantity and toxicity of hazardous, radioactive, mixed, and sanitary waste releases to the environment at the Hanford Site.

The *Guide for Preparing and Maintaining Pollution Prevention Program Documentation* (DOE/RL 1999) provides guidance to Hanford Site contractors for developing and maintaining documentation of pollution prevention and waste minimization activities.

6.1 MIXED WASTE MINIMIZATION PROGRAM

All Hanford Site contractors that generate hazardous, mixed, and/or radioactive waste are required to have a waste minimization program plan. The documentation that must be maintained on file demonstrating compliance with the plan is described in the pollution prevention program guide (DOE/RL 1999). The managers of waste-generating activities on the Hanford Site are required to certify, in writing, that they have a waste minimization program.

Waste minimization assessments are prepared to identify cost-effective techniques to reduce waste generation and pollutants. Hanford Site contractor personnel prepare proposals for reducing waste and showing associated management costs for consideration by RL.

6.1.1 Mixed Waste Minimization Program Objectives

The objectives of the Hanford Site waste minimization program include the following:

- Promote the use of nonhazardous materials in operations to minimize the potential risks to human health and the environment
- Reduce or eliminate the generation of waste through input substitution, process modification, improved housekeeping, and closed-loop recycling to achieve minimal adverse effects to the air, water, and land
- Promote integration and coordination by waste generators and waste managers on waste minimization matters

6.1.2 Waste Minimization Techniques

Waste minimization techniques used at the Hanford Site include the following:

- Inventory management
- Maintenance programs
- Waste recycling and reuse
- Waste segregation
- Work planning, including process changes and material substitution.

The Hanford Site contractors implement these techniques individually in accordance with their internal waste minimization program. Waste minimization activities are ongoing. For further information for each waste, refer to location-specific data sheets (Appendix B).

6.2 MIXED WASTE MINIMIZATION ACCOMPLISHMENTS

Waste minimization accomplishments at the Hanford Site during CY 2000 are listed in Table 6-1. The information from this table is summarized from the website called Electronic Reporting Forms for Waste Reduction Accomplishments and Status (FH). The website contains reporting forms and the database, which is maintained by the Hanford Site contractors in accordance with the existing regulatory requirements.

Table 6-1. Summary of Waste Minimization Accomplishments for CY 2000.

Program, Project, or Company	Waste Stream	Waste Type	Waste Form	Waste Source	Waste Minimization Approach	Amount (m^3)	Estimated Savings ($)	Waste Minimization Activity
222-S Laboratory/ WSCF	Measurement of free ammonia in off-gas	MLLW	Solid	Routine	Source Reduction	0.014	30,417	A solid-state ammonia electrode was purchased to evaluate a new method for ammonia measurement. The new method consists of measuring NH_3 in the off-gas rather than the liquid, resulting in a substantial reduction in probes required to perform analyses on tank farm samples.
PNNL	Fluorescent-based assay eliminates mixed waste.	MLLW	Liquid	Routine	Source Reduction	0.163	1,793	Fluorescent-based assay eliminated the use of radioisotope tracers for deoxyribonucleic acid synthesis assay.
RPP	Vadose Zone Soil	MLLW	Solid	Non-routine	Source Reduction	18	200,000	The Vadose Zone Project effectively reduced the guide hole size for slant bore hole drilling operations, thus reducing the potential amount of soil that would need to have been containerized as waste. Ecology has further ruled that any other future soils derived from similar operations may be returned to the earth as fill material in the same location it was removed instead of being containerized as mixed-waste.
RPP	Vadose Zone Drilling Guide Block	MLLW	Solid	Non-routine	Recycling	1	11,000	Vadose Zone Project intends to recycle the guide block in future drillings.

MLLW mixed low-level waste
PNNL Pacific Northwest National Laboratory
RPP River Protection Project
WESF Waste Encapsulation and Storage Facility

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7.0 REFERENCES

40 CFR 268, "Prohibitions on Storage of Restricted Wastes," *Code of Federal Regulations*, Washington, D.C. Available on the Internet at http://www.epa.gov/docs/epacfr40/chapt-I.info/subch-I.htm.

Atomic Energy Act of 1954, 42 USC 2011, et seq, as amended.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 USC 9601, et seq.

DOE/RL, 1999, *Hanford Site Guide for Preparing and Maintaining Generator Group Pollution Prevention Program Documentation*, DOE/RL-95-103, Rev. 4, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL, 2000, *Interim Report on Hanford Site Land Disposal Restrictions for Mixed Waste*, DOE/RL-2000-39, three volumes, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Ecology, EPA, and DOE, 1989, *Hanford Federal Facility Agreement and Consent Order*, as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Olympia, Washington.

EPA, 1990, *Guidance on the Land Disposal Restrictions' Effect on Storage and Disposal of Commercial Mixed Waste*, Directive #9555.00-01, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C.

FH, *Electronic Reporting Forms for Waste Reduction Accomplishments and Status*, database maintained by the Fluor Hanford, Inc., Pollution Prevention Group, Internet address http://apsql05.rl.gov/polprev/areport/report.htm.

Federal Facilities Compliance Act of 1992, Public Law 102-386, Stat. 1505.

Hazardous and Solid Waste Amendments of 1984, 42 USC. 6901, et seq.

Huckaby, A. D., 1997, "Re: Request for Approval to Stage Out of Service Ancillary Drain Piping in the 222-S Laboratory Service Tunnels,", Letter WA7890008967, TS-2-1 to T. K. Teynor of the U.S. Department of Energy, Richland Operations Office, dated October 10, 1997, Washington State Department of Ecology, Olympia, Washington.

Place, B. G., 2001, *Hanford Site Waste Minimization and Pollution Prevention Awareness Program Plan*, DOE/RL-91-31, Rev. 5, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Public Law 101-510, 1990, "Safety Measures for Waste Tanks at the Hanford Nuclear Reservation," Section 3137 of the *National Defense Authorization Act for Fiscal Year 1991*.

RCW 70.105, "State of Washington Hazardous Waste Management Act of 1976," *Revised Code of Washington*, as amended.

Resource Conservation and Recovery Act of 1976, as amended, 42 USC 6901, et. seq.

RLIP 34-05-d01, *Contractor Oversight and Evaluation Planning – Assessments*, October 2000, as amended, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Teynor, T. K., 1997, "Request for Approval to Stage Out of Service Ancillary Drain Piping in the 222-S Laboratory Service Tunnels," Letter DOE 97-ASP-014 to R. E. Skinnerland of the Washington State Department of Ecology, dated July 13, 1997, , U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Toxic Substances Control Act of 1976, 15 USC 2601, et seq, as amended.

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended. Available on the Internet at http://slc.leg.wa.gov/wacbytitle.htm.

APPENDIX A

LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS

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APPENDIX A

LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS

The land disposal restriction reporting requirements are presented in Table A-1. Table A-1 is a crosswalk linking the requirements for this document to the location in the document where those requirements are addressed. Refer to the footnotes at the end of the table for definitions of terms used in the table.

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
1	1.a (1990) IV.3.A.1, pg 16 (FD) IV.3.A.1.a, pg 16 (FD) IV.3.A.1, pg 17 (FD) IV.3.A.3, pg 18 (FD) IV.3.B.a, pg 19 (FD) 23 items (Ltr)	Identification of mixed waste	**(STR)**: 1.1 and 1.2 (TGDS), as well as 1.1 (LSDS). LDR mixed waste is presented by a combination of treatment path forward and storage location on the two types of waste stream data sheets. In addition, the Potential Mixed Waste Table (Appendix C) presents materials that have the potential to be reported in the data sheets in future years, but currently are reported in a format that resulted from discussions with Ecology and EPA
2	1.a (1990) IV.3.A.1, pg 16 (FD) IV.3.A.1.a, pg 16 (FD) IV.3.B.a, pg 19 (FD)	Description of mixed waste	Identification and description are included as part of Items 3 through 11 of this table. **(STR)**: 1.2 (TGDS) and portions of 3.0 (TGDS), as well as 1.3.1 (LSDS) and other portions of 1.0 (LSDS)
3	1.a (1990) IV.3.A.1.b, pg 16 (FD)	RCRA hazardous waste code	**(STR)**: 3.3.2 (TGDS)
4	IV.3.A.1.c, pg 16 (FD)	Applicable LDR treatment standard(s) and underlying hazardous constituents	**(STR)**: 3.3.2 (TGDS)
5	1.a (1990) IV.3.A.1, pg 16 (FD) IV.3.A.1.a, pg 16 (FD) IV.3.A.1.c, pg 16 (FD)	Process information necessary for waste identification and LDR determinations	**(STR)**: 1.3 and 2.12 (LSDS), applicable profiles referenced in 1.2 (LSDS)
6	1.a (1990) IV.3.A.1.c, pg 16 (FD)	History of how the waste was generated	**(STR)**: 1.3 and 2.12 (LSDS)
7	1.a (1990) IV.3.A.1.c, pg 16 (FD)	Source of the hazardous constituents	**(STR)**: 1.3 and 2.12 (LSDS)
8	1.a (1990) IV.3.A.1.c, pg 16 (FD)	How the waste was managed before storage	**(STR)**: 2.1.1 (LSDS)

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
9	1.a (1990) IV.3.A.1.c, pg 16 (FD)	General timeframe determination that serves to categorize when the waste was placed in storage	(**STR**): 2.1.2 and portions of 1.3 (LSDS)
10	1.a (1990) IV.3.A.1.d, pg 16 (FD)	Radioactivity type	(**STR**): 3.1.1 and 3.1.2 (TGDS).
11	1.a (1990) IV.3.A.1.e, pg 16 (FD)	Physical form of the waste	(**STR**): 3.2.1 and 3.3.2 (TGDS).
12	1.b (1990) IV.3.A.1.f, pg 16 (FD)	Quantity of waste	(**STR**): 2.1 (TGDS), as well as 2.3 (LSDS).
13	1.c (1990) IV.3.A.1.g, pg 16 (FD) IV.3.A.1, pg 17 (FD)	Physical location	(**STR**): 2.1 and 2.2 (LSDS)
14	1.c (1990) IV.3.A.1.g, pg 16 (FD)	Method of storage	(**STR**): 2.1 and 2.2 (LSDS).
15	1.c (1990) IV.3.A.1.g, pg 16 (FD)	List of areas permitted for storage	(**STR**): 2.5 (LSDS). A current list of the permitted storage facilities can be found at http://www.hanford.gov/rcra.
16	1.d (1990) IV.3.A.1.h, pg 16 (FD) IV.3.A.2, pg 17 (FD) IV.3.A.2, pg 17 (FD) IV.3.A.2, pg 17 (FD)	DOE assessment of the compliance status	(**STR**): 2.7 (LSDS), as well as in Chapter 3 of the LDR Storage Report.
17	IV.3.A.2, pg 17 (FD)	Notification of which DOE organization is responsible for assessment within 60 days of final determination issuance.	Timely notification was provided by a letter dated May 23, 2000 (French 2000) and its attachment. Item complete.
18	IV.3.A.2, pg 17 (FD)	Notification of which DOE organization is responsible for assessment within 60 days of final determination issuance.	Timely notification was provided by a letter dated May 23, 2000 (French 2000), and its attachment. (**STR**): Additional information is provided in Chapter 3.

Table A-1. LDR Requirements.

Item	Section ID[2]	Requirement[3]	Location of Information[4]
19	IV.3.A.2, pg 17 (FD)	Notification of which DOE organization is responsible for assessment within 60 days of final determination issuance.	Timely notification was provided by a letter dated May 23, 2000 (French 2000), and its attachment. Item complete.
20	IV.3.A.2, pg 17 (FD)	Procedure used for assessments must meet minimum regulatory requirements (WAC 173-303 and 40 CFR 265)	Timely notification was provided by a letter dated May 23, 2000 (French 2000), and its attachment. Item complete.
21	IV.3.A.2, pg 17 (FD)	Opportunity for Ecology review and comment must be provided while developing assessment schedules and procedures	Timely notification was provided by a letter dated May 23, 2000 (French 2000), and its attachment. Item complete.
22	1.e (1990) IV.3.A.1.i, pg 17 (FD)	Identification of any releases	**(STR)**: 2.9 (LSDS), as well as in Chapter 5.
23	1.f (1990) IV.3.A.1.j, pg 17 (FD)	Generation rates	**(STR)**: 2.2 (TGDS), as well as 2.6 (LSDS), contains estimates for the next 5 years.
24	1.f (1990) IV.3.A.1.j, pg 17 (FD)	Estimate of the storage capacity	**(STR)**: 2.4 (LSDS), and in the text of the LDR storage report, Section 4.1.
25	1.f (1990) IV.3.A.1.j, pg 17 (FD)	When storage capacity will be reached	**(STR)**: 2.4 (LSDS), and in the text of the LDR storage report, Section 4.1.
26	1.f (1990) IV.3.A.1.j, pg 17 (FD)	Identification of the bases and assumptions used in making the estimate	**(STR)**: 2.12 (LSDS), as well as Chapter 4 text when applicable.
27	1.g (1990) IV.3.A.1.k, pg 17 (FD)	Plans to submit requests for variances, case-by-case extensions of the LDR requirements, or other exemptions	**(STR)**: 4.8 and 5.0 (TGDS), and 2.10 (LSDS), as well as in the text of the LDR Storage Report, Section 4.3.
28	2 (1990) IV.3.A.1.k, pg 17 (FD)	Provide for the submittal of requests for case-by-case extensions, variances, and other exemptions of the LDR requirements in accordance with Section 3004 of RCRA	**(STR)**: 4.8 and 5.0 (TGDS), and 2.10 (LSDS), as well as in the text of the LDR Storage Report, Section 4.3.
29	3 (1990) IV.3.A.3.a, pg 19 (FD) IV.3.A.3.a, pg 19 (FD)	Plan and schedule to characterize all waste	**(STR)**: 2.11 (LSDS). **(C&T)**: In the text of Chapter 3, Chapter 7.

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
30	IV.3.A.3, pg 19 (FD)	Reporting of waste characterization plan must delineate steps necessary to confirm which streams are subject to LDR	**(STR)**: The potential mixed waste table (Appendix C) identifies waste that potentially is mixed waste, along with plans to fill data gaps and negotiate a path forward. Any new waste determined to be LDR mixed waste is added to the report when it is determined to be waste, as stated in the report text, Section 1.3.
31	3 (1990) IV.3.A.3, pg 19 (FD)	Report characterization results to EPA and Ecology	**(STR)**: 3.0 (TGDS), and 2.11 (LSDS); **(C&T)**: Reporting of results has been according to protocol established in the Tri-Party Agreement, Section 9.6. This annual LDR report has this process summarized in the text of Chapter 2.
32	3 (1990)	Steps necessary to confirm which waste and which waste streams are subject to the LDR	**(STR)**: The potential mixed waste table (Appendix C) identifies waste that potentially is mixed waste, along with plans to fill data gaps and negotiate a path forward. Any new waste determined to be LDR mixed waste is added to the report when it is determined to be waste, as stated in the report text, Section 1.3.
33	4.a (1990)	Treatment and disposal technologies	**(STR)**: 4.2 and 4.3 [see also 3.3.2] (TGDS) for treatment, and in 5.0 (TGDS) for disposal. **(C&T)**: Existing treatment technologies and processes are discussed in Sections 3.1, 4.1, and 5.1. Processes needing adaptation are discussed in Sections 3.2, 4.2, and 5.2. Disposal processes are discussed in Sections 3.5, 4.4, 5.5, and 5.6.
34	4.a (1990)	Treatment capacity	**(STR)**: 4.3 (TGDS). **(C&T)**: In the text and tables of Chapters 3, 4, and 5.

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
35	4.b (1990)	Commercial treatment technologies	Same as the portion of Item 33 of this table regarding treatment. (**STR**): 4.2 and 4.3 [see also 3.3.2] (TGDS). (**C&T**): In the text and tables of Chapter 3 where applicable for treatment.
36	4.b (1990)	Capacity currently available	Similar to Item 34 of this table. (**STR**): 4.3 (TGDS). (**C&T**): In the text and tables of Chapters 3, 4, and 5.
37	4.c (1990)	DOE treatment technologies	Same as the portion of Item 33 of this table regarding treatment. (**STR**): 4.2 and 4.3 [see also 3.3.2] (TGDS). (**C&T**): In the text and tables of Chapters 3, 4, and 5 where applicable for treatment.
38	4.c (1990)	Extent of capacity currently available	Same as Item 36 of this table. (**STR**): 4.3 (TGDS). (**C&T**): In the text and tables of Chapters 3, 4, and 5.
39	4.d (1990)	Whether any new commercial or DOE treatment capacity is scheduled to be available	Similar to Items 36 and 38 of this table. (**STR**): 4.3 (TGDS). (**C&T**): In the text and tables of Chapters 3, 4, and 5.
40	4.d (1990)	When such new capacity will be available	(**STR**): 4.4, sometimes 4.5 (TGDS). (**C&T**): In the text and tables of Chapters 3, 4, and 5.
41	4.e (1990)	Alternate technologies which are in development and which may be used to manage these LDR wastes	(**C&T**): In the text and tables of Chapters 3, 4, and 5.
42	4.e (1990)	Assessment of when such alternate technologies may become available	(**C&T**): In the text of Chapters 3, 4, and 5.
43	4.f (1990)	Basis and assumptions used	(**STR**): 4.9 (TGDS). (**C&T**): Discussed as applicable in the text and tables of Chapters 3, 4, and 5.

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
44	4.f (1990)	Foreseeable contingencies	**(STR)**: 4.9 (TGDS). **(C&T)**: In the text and tables of Chapters 3, 4, and 5, as applicable.
45	5 (1990) IV.3.A.3, pg 18 (FD)	Milestones and schedules for the development and implementation of treatment technologies	**(STR)**: 4.4, 4.5, and 4.6 (TGDS). **(C&T)**: Applicable milestones and treatment plans are identified by treatment process in Chapters 3, 4, and 5. Existing Tri-Party Agreement milestones and proposed milestones related to LDR are presented in Chapter 9 of the C&T plan.
46	5 (1990) IV.3.A.3, pg 18 (FD) IV.3.A.3.a, pg 18 (FD)	All applicable milestones and associated schedules for developing and implementing treatment or management technologies	**(STR)**: 4.4, 4.5, and 4.6 (TGDS). **(C&T)**: Applicable milestones and treatment plans are identified by treatment process in Chapters 3, 4, and 5. Existing Tri-Party Agreement milestones and proposed milestones related to LDR are presented in Chapter 9 of the C&T plan.
47	IV.3.A.3.a, pg 18 (FD)	Schedules for submitting applicable permit applications, initiating construction, conducting systems testing, commencing operations, and processing backlogged and currently generated waste, for those waste types for which treatment technologies exist	**(STR)**: 4.4, 4.5, and 4.6, (TGDS). **(C&T)**: Applicable schedules are identified by treatment process in Chapters 3, 4, and 5. Existing Tri-Party Agreement milestones and proposed milestones related to LDR are presented in Chapter 9 of the C&T plan.
48	IV.3.A.3.b, pg 18 (FD)	Schedules for identifying and developing treatment technologies for those waste types for which **no** treatment technologies currently exist, to include identification of funding requirements for the identification and development of such technologies, submitting treatability study exemptions, and submitting research and development permit applications	**(STR)**: 4.4, 4.5, and 4.6, (TGDS). **(C&T)**: Applicable schedules are in Chapters 3, 4, and 5. Existing Tri-Party Agreement milestones related to LDR are presented in Chapter 9 of the C&T plan. Information on plans to develop treatment technologies that do not currently exist are presented in the *Hanford Site Technology Needs*[5] and in HNF-4293-1.

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
49	IV.3.A.3.c, pg 18 (FD)	Requirements for all cases where DOE proposes radionuclide separation of mixed waste or materials derived from mixed waste	**(C&T)**: The only current or planned radionuclide separations are during treatment of liquid waste in the 200 Area Effluent Treatment Facility (Section 3.4) and treatment of DST and SST system waste (Section 5.3).
50	6 (1990)	Provide that DOE may treat LDR waste in accordance with applicable law in advance of approved milestone dates	Activities can always be completed in advance of the milestone date, and are whenever possible. However, budget constraints are a reality, and sometimes have an impact on the ability to even meet existing milestones.
51	IV.3.A.3, pg 18 (FD)	Propose milestones and associated schedules for known waste not covered by the report to be incorporated and established in accordance with the Tri-Party Agreement Action Plan (Section 12)	**(STR)**: 4.6 (TGDS). All known waste types are covered in the LDR report (TGDS and LSDS). Potential mixed waste is presented in the Potential Mixed Waste Table (Appendix C). **(C&T)**: Chapters 3, 4, 5, and 7.
52	7 (1990)	Identified methods for minimizing the generation of LDR waste	**(STR)**: 3.2 (LSDS), as well as the text in Chapter 6.
53	7 (1990)	Process changes that can be made to reduce or eliminate LDR waste	**(STR)**: 3.2 (LSDS), as well as the text in Chapter 6.
54	7 (1990)	Methods to minimize the volume of regulated and restricted waste through segregation and avoidance of commingling	**(STR)**: 3.2 (LSDS), as well as the text in Chapter 6.
55	7 (1990)	Substitution of less toxic materials for materials currently used at the Hanford Site	**(STR)**: 3.2 (LSDS), as well as the text in Chapter 6.
56	7 (1990)	Schedule for implementing waste minimization procedures	**(STR)**: 3.3.2 and 3.3.3 (LSDS).
57	7 (1990)	Projections for reducing newly generated waste	**(STR)**: 3.3.2 (LSDS).
58	7 (1990)	Basis for developing projections	**(STR)**: 3.3.3 (LSDS).

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
59	7 (1990)	Assumptions used in developing the projections	**(STR)**: 3.3.3 (LSDS), as well as the text in Chapter 6. The Hanford Site contractors issue periodic waste minimization plans, separate from the LDR report, and has waste minimization assessments for each applicable facility.
60	7 (1990)	Annually revise and submit as part of the annual report that portion of the storage report associated with Item 1 of this table, to conform with the generation projections contained in the Waste Minimization Plan	The LDR report is revised annually, including the waste minimization content.
61	7 (1990)	As part of the annual report, DOE shall submit an amendment to the Waste Minimization Plan	Same as Item 60 of this table. The LDR report is revised annually, including the waste minimization content.
62	7 (1990)	Annually, DOE shall revise and submit that portion of the Storage Report associated with Item 1 (and the "1990" reference) of this table, to conform with generation projections contained in the update to the Waste Minimization Plan	Same as Item 60 of this table. The LDR report is revised annually, including the waste minimization content.
63	IV.3.A.3, pg 18 (FD) IV.3.A.3, pg 18-19 (FD)	The annual LDR report must include a waste characterization plan and associated schedules based on the waste identified in accordance with the final determination.	**(STR)**: The potential mixed waste table (Appendix C) contains information about filling data gaps for potential mixed waste. **(C&T)**: Chapter 7
64	8 (1990)	Describe how information, plans, and schedules contained in the LDR Plan will be updated as part of the annual report	**(STR)**: Section 1.3
65	8 (1990) IV.3.B.c, pg 19 (FD) IV.3.B.c, pg 19 (FD)	Describe how and when the LDR Plan will be revised and reissued	**(STR)**: Explained briefly in Section 1.3. The annual LDR report evolved from, and is based on, the original LDR document, which was called the LDR Plan. Therefore, the "Plan" is essentially revised and submitted each year.

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
66	IV.3.B.c, pg 19 (FD)	Each waste stream has an associated statement by DOE documenting whether sufficient work has been performed for continued compliance	No longer applicable, as a result of Pollution Control Hearings Board stipulations..
67	IV.3.B.d, pg 19 (FD)	The Annual LDR report will serve as a vehicle to propose schedules for newly discovered or to be generated mixed waste not yet covered by the report or the Tri-Party Agreement	Newly identified waste has been and will continue to be added to the report each year, subject to scope of the report and waste stream definition. Proposed schedules are incorporated for all waste streams where applicable. The potential mixed waste table (Appendix C) covers material that may become mixed waste in the future.
68	IV.3.B.e, pg 19 (FD)	Annual LDR report will serve as vehicle to propose modified Tri-Party Agreement schedules as necessary to achieve compliance with LDR treatment requirements in a manner equivalent to STPs as required by FFCA	**(C&T):** While the annual report can identify the need for modifications of current Tri-Party Agreement schedules, such changes are established via the Tri-Party Agreement, Chapter 12 (Action Plan). This report contains milestones that will be proposed in change request(s) as Tri-Party Agreement milestones.
69	IV.3.A.3.a, pg 19 (FD)	Proposed plans and schedules to sufficiently characterize mixed waste, including an inventory of mixed waste not sufficiently characterized by sampling and analysis	**(STR):** 2.11 (LSDS), as well as the potential mixed waste table (Appendix C) for potential mixed waste. **(C&T)**: Section 3.3.1.
70	IV.3.B.b, pg 19 (FD) IV.3.B.f, pg 20 (FD)	LDR report will be published as a primary document and will propose new waste streams as necessary	**(STR):** Signature page states that this report is a primary document. Explained briefly in Section 1.3. New waste streams are included as identified. Section 1.1.
71	IV.3.B.b, pg 19 (FD)	LDR report will support equivalency to FFCA STPs	While not identical to an STP, the LDR report is equivalent to an STP. The basis format for the C&T is the same as for an STP. **(STR):** Section 1.4 **(C&T)** Section 1.0
72	IV.3.B.c, pg 19 (FD)	LDR report will serve as unified Sitewide document detailing requirements of LDR Requirements Document[2]	This table delineates how the LDR report meets these requirements. See all items in second column of this table marked with "(1990)"

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
73	IV.3.B.c, pg 19 (FD)	LDR report will report DOE actions planned and taken to achieve and maintain full compliance with LDR and associated Tri-Party Agreement requirements in effect as of LDR report submittal date	This table delineates how the LDR report meets these requirements. See all items in second column of this table. The report shows planning for LDR characterization, treatment, and other actions. Section 1.5 of the STR is an accomplishments section.
74	IV.3.B.f, pg 20 (FD)	Inclusion of specific statement regarding the LDR report being a primary document, and regarding binding and enforceable nature of contents: "This document has been prepared, submitted, revised and approved as a primary document in response to the requirements of Tri-Party Agreement Milestone Series M-26-01 and related RCRA Land Disposal Restriction (LDR) and Tri-Party Agreement requirements. As such, this document serves as a binding and enforceable document under the Tri-Party Agreement."	The signature page states that this report is a primary document and includes the required language.
75	IV.3.B.f, pg 20 (FD)	Inclusion of specific statement regarding approval by DOE and Ecology: "Approval of DOE's annual LDR Report as a Tri-Party Agreement primary document shall be by written approval of DOE and Ecology IAMIT representatives." Signature blocks are to follow the above statement.	The signature page states that this report is a primary document, and includes signature blocks.

Table A-1. LDR Requirements.

Item [1]	Section ID[2]	Requirement[3]	Location of Information[4]
76	IV.3.C, pg 20 (FD)	The LDR report submitted in 2000 is an interim report documenting known information, and detailing actions planned to fully comply with the final determination.	This item does not contain a requirement for this report, and therefore is not applicable as a calendar year 2000 report content requirement. DOE/RL (2000) in Chapter 7 of the report references the Interim LDR Report.

[1]Item number supplied for the convenience of the reader.

[2]The notation "(1990)" refers to the four-page "Requirements for the Hanford LDR Plan"(LDR Requirements Document) signed by EPA and Ecology in 1990. The notation "(FD)" refers to the "Director's Final Determination" issued by Ecology on March 29, 2000.

The notation "(Ltr)" refers to the January 25, 2000 clarification letter from Ecology delineating the wastes required to be reported.

[3]The text in this column is a brief summary of the requirement(s).

[4]The information in this column refers to the location of the information within this annual LDR report; the term "**(STR)**" refers to the LDR Storage Report, and the term "**(C&T)**" refers to the LDR Characterization and Treatment Plan. For information presented on the data sheets of Appendix B, LDR Storage Report, "(TGDS)" refers to the treatability group data sheet, and "(LSDS)" refers to the location –specific data sheet. A brief description of how the two types of data sheets are related can be found in Section 1.2of the LDR Storage Report

FY 2000 Hanford Site Technology Needs, available on the Internet at http://www.pnl.gov/stcg/fy00needs/technology/index.stm.

40 CFR 265, "Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," *Code of Federal Regulations*, as amended.

Bounini, L. 1999, *Project Management Plan for Low-Level Mixed Waste and Greater than Category 3 Waste in accordance Tri-Party Agreement M-91-10*, HNF-4293-1,. Waste Management Federal Services of Hanford, Inc., for Fluor Hanford, Inc.,, Richland, Washington

French, R. T., 2000, "Submittal of Sixty-Day Notifications Required by Final Determination," letter number 00-ORL-055 to T. C. Fitzimmons, Washington State Department of Ecology, dated May 23, 2000, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Resource Conservation and Recovery Act of 1976, as amended, 42 USC 6901, et. seq..

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended.

C&T	Characterization and Treatment Plan	PUREX	Plutonium-Uranium Extraction
CFR	*Code of Federal Regulations*	RCRA	*Resource Conservation and Recovery Act of 1976*
CWC	Central Waste Complex	STP	Site Treatment Plan
DOE	U.S. Department of Energy	STR	Storage Report
Ecology	Washington State Department of Ecology	Tri-Party Agreement	*Hanford Federal Facility Agreement and Consent Order*
EPA	U.S. Environmental Protection Agency	TGDS	treatability group data sheet
FD	Final Determination	TSD	treatment, storage, and/or disposal
FFCA	Federal Facility Compliance Agreement	WAC	*Washington Administrative Code*
LDR	land disposal restrictions	WRAP	Waste Receiving and Processing
LSDS	location-specific data sheets		

APPENDIX B

WASTE STORAGE REPORT DATA SHEETS

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APPENDIX B

WASTE STORAGE REPORT DATA SHEETS

The treatability group data sheets are organized in alphabetical-numerical order. Each treatability group data sheet is followed by one or more location-specific data sheets that fall within that group. Refer to Figure B-1 for details of how the two types of sheets relate. Refer to Table B-1 for the index of data sheets.

B1.0 LOCATION SPECIFIC DATA SHEET DATA FIELD DESCRIPTIONS

The following items are numbered to correspond to their numbers on the location-specific data sheets. The numbers refer to the data field locations in the data sheets. They have no relation to their position in this appendix.

1.1 Plant/Unit Name: Uniquely identifies the generating location of the waste.

Waste Stream. A short, descriptive name for the waste.

Treatability/Aggregated Group Identifier. Identifies the waste treatability group to which the waste is assigned.

Treatability/aggregated group name. A short, descriptive name for the waste treatability group to which the waste is assigned.

1.2 Applicable Profile Number(s) for This Waste Stream. List of waste profile numbers applicable to the waste, if any. Waste profile numbers are used principally for waste that is shipped to the CWC or that is received at Hanford from offsite generators.

1.3 Waste Stream Source Information

1.3.1 General Description of the Waste (e.g., spill cleanup waste, discarded lab materials, maintenance waste). Describes where the waste came from, the general matrix, and contaminants.

1.3.2 History of How and Where the Waste Was/Is Generated. Describes how, why, and where the waste was generated. The generator's name is included if the waste was not generated on the Hanford Site.

1.3.3 Source of the Hazardous Constituents. Describes how the hazardous constituents came to be in the waste.

1.3.4 Source of Information. Information sources include analytical data, process knowledge, document number, etc.

1.3.5 Additional Notes. Includes any information that would be helpful in identifying the waste and its generation.

2.0 Waste Stream Storage, Inventory, and Generation Information

2.1 Current Storage Method. Lists the type of storage in a multiple-choice format. The box is checked that best describes how the waste is stored.

2.1.1 How Was the Waste Managed Prior to Storage? Describes routine and special management of the waste.

2.1.2 Timeframe When Waste Was Placed into Storage. Contains the date or dates the waste was placed in storage.

2.2 Inventory Locations. Lists the building and room number with the number of storage vessels for each location. Note: This does not include satellite or 90-day accumulation areas (SAAs, 90-day pads). This field is left blank if the facility has only SAAs and 90-day pads.

2.3 Current Inventory for This Stream (Stored Waste Only, Not Accumulation Areas). Volume of waste (cubic meters) and reporting date of the volume. The default reporting date is December 31, 2000. In some cases, the date shown will be different if the volume is known only for another date.

2.4 Is Storage Capacity at This Location Potentially an Issue for This Waste Stream? The choices are "yes" and "no." If "yes," lists the total estimated storage capacity and when that capacity is expected to be reached. Lists any bases and assumptions used in estimating storage capacity limitations.

2.5 Planned Management Areas for Storage of This Waste. Lists areas in a multiple-choice format. More than one choice may apply. This is where the waste is intended to be stored.

2.6 Estimated Generation Projection by Calendar Year. Lists next 5 years and the estimated volume (m^3) or mass (kg) of the waste. Note that the precision implied by the number of digits displayed on the data sheets frequently is an artifact of database design, which is constructed to allow input of a standard 0.208 m drum or even smaller quantities. For example, if 42.400 is shown, the last two zeros are not necessarily significant. This also applies to Item 2.3, "Current Inventory."

2.7 DOE Storage Compliance Assessment information: Shows whether the assessment either has been or will be completed, and reference the appropriate date or explain why neither of the other two options was selected

2.8 Applicable Tri-Party Agreement milestones related to storage at this location: List the applicable Tri-Party Agreement milestone(s) for storage. Shows "NA" if not applicable (i.e., waste is only in accumulation areas, and "None" if waste is stored, but has no associated milestones to be reported. Note: Milestones listed do not include M-26-01 (LDR report).

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment? The choices are "yes" and "no." **If yes, summarize releases and quantities and provide date:** This applies to mixed waste streams only, not to the processes that generate the waste or to non-RCRA waste. If the waste is released to the air, soil, or surface water, it is released to the environment. The release needs to be reported regardless of whether it was cleaned up. A "yes" answer implies a known release.

2.10 Are there any plans to submit requests for variances or other exemptions related to storage? The choices are "yes" and "no." If "yes" is chosen, an explanation is provided. (Variances and/or exemptions associated with waste treatment are addressed in Treatability Group Data Sheet Item 4.8.

2.11 Is further characterization necessary? The choices are "yes," "no," and "unknown at this time." If "yes" is chosen, provides details and schedule for characterization. (See the characterization and treatment plan volume for further information.) If yes, provides Tri-Party Agreement milestone numbers. Note: Milestones listed do not include M-26-01 (LDR report). If unknown, provides information on need for additional characterization.

2.12 Other key assumptions related to storage, inventory and generation information. Explains anything about this waste stream that will provide greater understanding and clarification. Identifies assumptions that, if incorrect, would affect information in the data sheet or elsewhere in the report.

3.0 Waste Minimization

3.1 Has a waste minimization assessment been completed for this stream? The choices are "yes" and "no." If "yes" is chosen, provides date assessment conducted, provide document number or other identification. If "no" is chosen, provides date assessment will be completed. If "NA," the waste stream is no longer generated.

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.). Space is provided for the explanation.

3.3 Waste Minimization Schedule

3.3.1 Reduction achieved during calendar year (volume or mass): How much waste has the facility avoided generating this past year?

3.3.2 Projected future waste volume reductions: List the next 5 years in volume (m^3) or mass (kg). The database will add the entries to supply a location-specific total.

3.3.3 Bases and assumptions used in above estimates: Explains anything about waste minimization activities of this waste that provides greater understanding and clarification.

B2.0 TREATABILITY GROUP DATASHEET DATA FIELD DESCRIPTIONS

The following items are numbered to correspond to their numbers on the location-specific data sheets. The numbers refer to the data field locations in the data sheets. They have no relation to their position in this appendix.

1.1 Treatability group/aggregated stream identifier. Uniquely identifies the waste treatability group.

Treatability group/aggregated stream name. A short, descriptive name for the waste treatability group.

1.2 Description of waste (list WSRd [waste specification record] numbers for this waste stream, as applicable). Briefly describes the physical contents of the stream. WSRD numbers indicate a waste treatment and/or disposal pathway and are used principally for waste stored at the CWC or received from off Site.

2.0 Waste stream inventory and generation

2.1 Current total inventory for this stream (stored waste only, not accumulation areas). Total volume (cubic meters). Automatically summed from stored inventory in individual location-specific waste contributing to this treatability group.

2.2 Estimated generation projection by calendar year. Listed by year, and m^3 and/or kg: Automatically summed as discussed in Item 2.1.

3.1 Radiological characteristics

3.1.1 Mixed waste type. Lists options in a multiple-choice format. One box is checked for radiological content (high-level, transuranic or low-level).

3.1.2 Handling (as currently packaged/stored). Lists options in a multiple-choice format. One box is checked to differentiate between contact- and remote-handled waste types.

3.1.3 Comments on radiological characteristics (e.g., more specific content treatment concerns caused by radiation confidence level). Provides space for information on radiological characteristics of the waste that cannot be supplied in the multiple-choice format used in previous items.

3.2 Matrix Characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass). Amplifies the waste stream description given in Item 1.2. The Matrix Parameter Category Code is the

treatability group code (e.g., S5320) from *DOE Treatability Group Guidance*, DOE/LLW-217. The matrix constituent description is the name that applies to the code (e.g., wood debris). For some streams, one entry covers 100 percent of the waste. Typical or range (%) lists the estimated percentage of the waste that fits this category. The overall matrix parameter category code is the overall code from the table that describes the greatest percentage of the waste. Overall matrix description is the name associated with this overall code.

3.2.2 Confidence level for matrix characteristics data. Provides a subjective judgment of how accurately the physical contents of the waste are known (i.e., the data discussed in item 3.2.1). For example, a drum that has not been inspected might be ranked low. A low or medium ranking could imply that this stream needs further characterization.

3.2.3 Comments on matrix characteristics and/or confidence level. Provides space for information on matrix characteristics of the waste and the confidence level that cannot be supplied in the multiple-choice format.

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA. Lists options in a multiple-choice format. The appropriate box is checked for whether, under federal LDR requirements, the waste is considered wastewater, non-wastewater, or is of an unknown type. This does not apply for state-only dangerous waste.

3.3.2 Regulated contaminant table. Provides the following information in a table. The U.S. Environmental Protection Agency (EPA)/State numbers are the listed or characteristic waste numbers such as D001, F005, etc. The waste description contains the characteristics of the waste or lists contaminants of concern (e.g., ignitable or methyl ethyl ketone). The LDR subcategory is any applicable subcategory of the waste number, (e.g., corrosive characteristic waste or radioactive high level waste for D002). The LDR subcategory applies only to D001 though D011. Some profile sheets could add the constituent of concern in this field for F-coded waste. Concentration of the constituent, if known, is included in the table as a range or a single value. In some cases, the concentration is not known and this field is left blank or labeled "TBD." 'Basis' explains how the concentration information was determined (e.g., process knowledge, laboratory analysis, etc.). The final column lists either the regulatory-required method for treating the waste or the required final concentration, as obtained from the applicable regulations. Underlying hazardous constituent (UHC) information is included in this table. Footnotes can be added as further explanation for the table.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards. (Self-explanatory.)

3.3.4 Does this waste stream contain PCBs? Lists options in a multiple-choice format. The basis for the determination can be process knowledge or waste characterization.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs? As determined by *Toxic Substance Control Act* (TSCA) regulations; refer questions to regulatory analysis or compliance personnel.

3.3.4.2 Indicate the [polychlorinated biphenyl] PCB concentration range. The appropriate box is checked for PCB concentration range.

3.3.5 What is the confidence level for the regulated contaminant characteristic data? Lists options in a multiple-choice format. This assigns a subjective rating to the accuracy of the information presented on contaminants, waste numbers, etc. A low or medium rating implies that more needs to be done in this area.

3.3.6 Comments on regulated contaminant characteristics and/or confidence level. Provides space for comments on regulated contaminant characteristics of the waste and confidence in the accuracy of the information.

4.0 Waste stream treatment

4.1 Is this stream currently being treated? Lists options in a multiple-choice format. The appropriate treatment box is checked and details are provided if treatment currently is under way.

4.2 Planned treatment. Lists options in a multiple-choice format. The appropriate box is checked, indicating plans exist for treating the waste stream to meet applicable regulations.

4.3 Planned treatment method, facility, and extent of treatment capacity available. Gives details of planned treatment for onsite treatment, storage, and/or disposal (TSD) units and offsite facilities, as well as details of how much of the required capacity is available.

4.4 Treatment schedule information. Provides space to include such information as when treatment starts and ends and how much waste will be treated each year.

4.5 Applicable Tri-Party Agreement milestone numbers, including permitting. Provides space to list appropriate existing milestone numbers.

4.6 Proposed new Tri-Party Agreement milestones. Provides space to list appropriate proposed milestone numbers.

4.7 If treating or planning to treat onsite, was or will waste minimization be addressed in developing and/or selecting the treatment method? Provides space to describe how waste minimization will be considered in developing the treatment method.

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment. Gives details of any existing or future treatability variances (40 *Code of Federal Regulations* [CFR] 268.44), equivalency petitions (40 CFR 268.42(b)), rulemaking petitions (*Washington Administrative Code* [WAC] 173-303-910, 40 CFR 260.20), and case-by-case exemptions (WAC 173-303-140(6)).

4.9 Key assumptions. Provides space to list assumptions about treatment.

5.0 Waste Stream Disposal. After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)? Provides space to describe methods, locations, variances required, etc., as applicable.

Figure B-1. Example Relationship Between Location-Specific and Treatability Group Data Sheets.

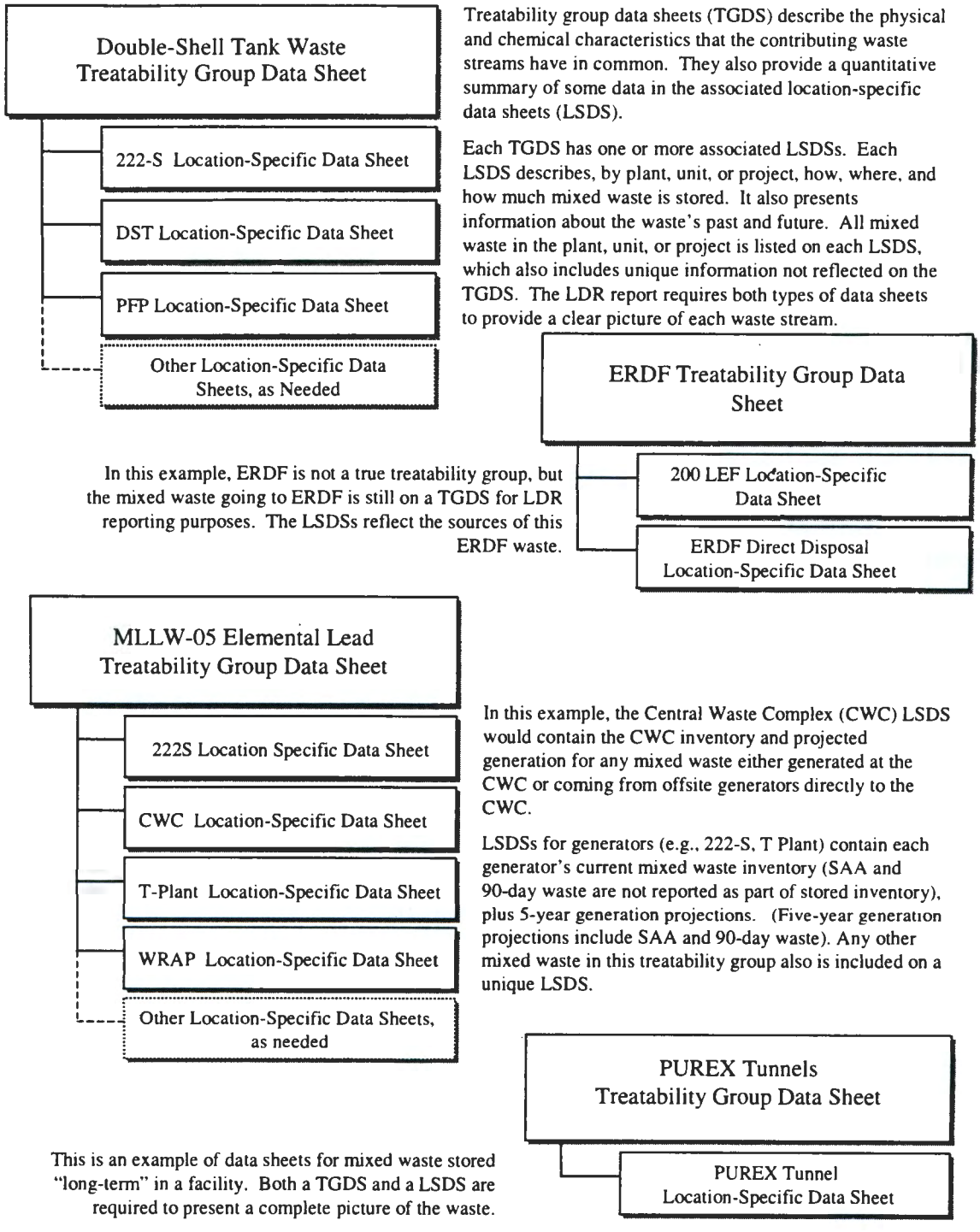

Table B-1. Data Sheet Index. (8 sheets)

Treatability Group Identifier		Treatability Group		
Area	Plant	Unit	Waste Stream	Contractor
221-T RCRA Tank System		**T Plant Complex Waste**		
200 West	221-T	221-T, RCRA Tank System	RCRA Tank System	FH
222-S T8 RH-MLLW		**222-S Laboratory Complex T8 Tunnel Waste**		
200 West	222-S	222-S T-8 Tunnel Waste	T-8 Tunnel Waste	FH
324 Bldg. Radiochemical Engineering Cell Waste		**324 Building Radiochemical Engineering Cells**		
300 Area	324	324 REC	Radiochemical Engineering Cell	FH
618-4 DU/Oil Drums		**Depleted Uranium in Oil from 618-4 Burial Ground**		
300 Area	618-4	618-4 DU/Oil Drums	DU/Oil Drums	BHI
B Plant		**B Plant Containment Building Storage**		
200 East	B Plant	221-B, Containment	Containment Building Storage	BHI
B Plant Cell 4 Waste		**B Plant Complex Cell 4 waste**		
200 East	B Plant	221-B, Cell 4	Cell 4	BHI
Cesium and Strontium Capsules		**Cesium and Strontium Capsules**		
200 East	WESF	225-B, Cs & Sr Capsules	Cs and Sr Capsules	FH
DST Waste		**DST Waste**		
200 West	222-S	219-S Waste Handling Facility (WHF)	Bulk Aqueous Liquids	FH
200 East	242-A	242-A Evaporator Slurry	Slurry Waste	FH
200 East	DST	DST-AN	241-AN	CHG
200 East	DST	DST-AP	241-AP	CHG
200 East	DST	DST-AR	204-AR	CHG
200 East	DST	DST-AW	241-AW	CHG
200 East	DST	DST-AY	241-AY	CHG
200 East	DST	DST-AZ	241-AZ	CHG
200 East	DST	DST-DCRT	Double-Contained Receiver Tanks	CHG
200 West	DST	DST-SY	241-SY	CHG
200 West	DST	DST, Transfer Line	Cross-Site Transfer Line	CHG
Various areas	HO-64-4275	Tank Trailer Waste	Tank Trailer HO-64-4275 Waste	CHG

Table B-1. Data Sheet Index. (8 sheets)

Treatability Group Identifier		Treatability Group		
Area	Plant	Unit	Waste Stream	Contractor
200 West	PFP	241-Z, Mixed Waste Tanks	Mixed Waste Tanks	FH
200 West	PFP	234-5Z, MHPP Filtrate	MHPP Filtrate	FH
ERDF		**ERDF**		
200 East	200 LEF	200 ETF, ERDF Debris	CERCLA Debris	FH
200 East	200 LEF	200 ETF, ERDF Powder	CERCLA Powder	FH
100 Area	ERDF Direct Disposal	ERDF Direct Disposal	ERDF Direct Disposal	BHI
ERDF—Treatment		**ERDF—Treatment**		
100 Area	100-HR-3 Spent Resin	CERCLA Resin	CERCLA Resin	BHI
100 Area	CERCLA Lead	CERCLA Lead	CERCLA Lead	BHI
K Basins Sludge		**K Basins Sludge**		
100 Area	K Basin	K Basin	K Basin Sludge	FH
LERF/ETF Liquid Waste		**LERF/ETF Liquid Waste**		
200 East	200 LEF	200 ETF, CERCLA Liquid	CERCLA Wastewater	FH
200 East	200 LEF	200 ETF, RCRA Liquid	RCRA Wastewater	FH
200 West	200-UP-1	200-UP-1	200-UP-1	BHI
200 East	242-A	242-A Evaporator	Evaporator Process Condensate	FH
200 West	T Plant Complex	2706-T RCRA Tank System	Storage-2706-T RCRA Tank System	FH
600 Area	WSCF	WSCF, LERF/ETF	LERF/ETF	FH
MLLW-01		**LDR Compliant Waste**		
200 East	200 LEF	200 ETF, LDR Compliant	RCRA Powder, LDR Compliant	FH
200 West	222-S	222-S LDR Compliant Waste, Dangerous Mixed Waste Storage Area (DMWSA)	222-S LDR Compliant Waste	FH
200 West	BHI Surveillance and Maintenance Waste	BHI S&M Waste, LDR Compliant	BHI S&M LDR Compliant	BHI
200 West	CWC	CWC, LDR compliant	LDR compliant waste	FH
200 West	PFP	234-5Z, LDR Compliant	Lab Chemicals/Reagents, LDR Compliant	FH
200 West	T Plant Complex	LDR Compliant	Storage-LDR Compliant Waste	FH

Table B-1. Data Sheet Index. (8 sheets)

Treatability Group Identifier		Treatability Group		
Area	Plant	Unit	Waste Stream	Contractor
Various areas, as required	Tank Farm Facilities	LDR Compliant, DST and SST Containerized Waste	LDR Compliant Waste	CHG
200 West	WRAP	2336-W, LDR Compliant	LDR Compliant	FH
MLLW-02		**Inorganic Non-Debris**		
200 East	200 LEF	200 ETF, RCRA Powder, Inorg. Non-Debris	RCRA Powder, Non-LDR Compliant	FH
200 West	222-S	222-S Inorganic Non-Debris Dangerous Mixed Waste Storage Area (DMWSA)	222-S Inorganic Non-Debris	FH
300 Area	309	309, Inorg. Non-Debris	Fuel Transfer Pit Sludge	FH
300 Area	324	324, Inorg. Non-Debris	Inorganic Discarded Chemical/Waste	FH
300 Area	327	327, Inorg. Non-Debris	Inorganic Discarded Chemical/Waste	FH
200 West	CWC	CWC, Inorg. Non-Debris	Inorganic Solids And Labpacks	FH
200 West	PFP	234-5Z	Lab Chemical Wastes, Inorganic Non-Debris	FH
200 West	T Plant Complex	Inorganic Non-Debris	Storage-Inorg Non-Debris	FH
Various areas, as required	Tank Farm Facilities	Inorg. Non-Debris, DST and SST Containerized Waste	Inorganic Non-Debris	CHG
200 West	WRAP	2336-W, Inorg. Non-Debris	Inorganic Non-Debris	FH
600 Area	WSCF	WSCF, Inorg. Non-Debris	Inorganic Non-Debris	FH
MLLW-03		**Organic Non-Debris**		
200 West	222-S	222-S Organic Non-Debris, Dangerous Mixed Waste Storage Area (DMWSA)	222-S Organic Non-Debris	FH
300 Area	305-B	MLLW-03, Org. Non-Debris	Organic Non-Debris	PNNL
300 Area	324	324, Org. Non-Debris	Organic Discarded Chemical/Waste	FH
300 Area	327	327, Org. Non-Debris	Organic Discarded Chemical/Waste	FH
200 West	CWC	CWC, Org. Non-Debris	Organic Solids and Labpacks	FH

Table B-1. Data Sheet Index. (8 sheets)

Treatability Group Identifier		Treatability Group		
Area	Plant	Unit	Waste Stream	Contractor
200 West	PFP	234-5Z, Org. Non-Debris	Lab Chemicals/Waste, Organic Non-Debris	FH
200 West	T Plant Complex	Org. Non-Debris	Storage-Organic Non-Debris	FH
Various areas, as required	Tank Farm Facilities	Org. Non-Debris, DST and SST Containerized Waste	Organic Non-Debris	CHG
200 West	WRAP	2336-W, Org Non-Debris	Organic Non-Debris	FH
600 Area	WSCF	WSCF, Org. Non-Debris	Organic Non-Debris	FH
MLLW-04A		**O/C Debris**		
200 East	200 LEF	200 ETF, Acid O/C Debris	Acid	FH
200 East	200 LEF	200 ETF, Caustic O/C Debris	Caustic	FH
200 East	200 LEF	200 ETF, O/C, Debris	RCRA O/C Debris	FH
200 East	200 LEF	242-A, O/C Debris	242-A	FH
200 West	222-S	222-S Organic/Carbonaceous Debris, Dangerous Mixed Waste Storage Area (DMWSA)	222-S Organic/Carbonaceous Hazardous Debris	FH
300 Area	305-B Debris	O/C Debris	Debris	PNNL
300 Area	324	324, O/C Debris	Organic/Carbonaceous Hazardous Debris	FH
200 West	CWC	CWC, O/C Debris	O/C Hazardous Debris	FH
200 East	Groundwater Well Maintenance Debris	Well Maintenance Debris	Well Debris	BHI
200 West	Hexone Storage and Treatment Facility Filter Waste	HSTF Filter Waste	Hexone Filter Waste	BHI
200 West	PFP	234-5Z, O/C Debris	Operations Wastes	FH
200 West	REDOX	202-S Organic Non-Debris	202-S	BHI
200 West	T Plant Complex	Organic/Carbonaceous Debris	Storage-O/C Debris	FH
Various areas, as required	Tank Farm Facilities	Organic Debris, DST and SST Containerized Waste	Organic Debris	CHG
200 West	WRAP	2336-W, O/C Debris	Organic/Carbonaceous Debris	FH

Table B-1. Data Sheet Index. (8 sheets)

Treatability Group Identifier		Treatability Group		
Area	Plant	Unit	Waste Stream	Contractor
600 Area	WSCF	WSCF, O/C Debris	Organic/Carbonaceous Hazardous Debris	FH
MLLW-04B		**Non-O/C Debris**		
300 Area	340 Waste Handling Facility	340 Waste Handling Facility	Mixed Waste Debris	FH
200 West	CWC	CWC, Non-O/C Debris	Inorganic Debris	FH
200 West	T Plant Complex	221-T, Non-O/C Debris	Storage 221-T Canyon Deck Cleanoff	FH
200 West	T Plant Complex	Non-O/C Debris	Storage-Inorganic Debris	FH
Various areas, as required	Tank Farm Facilities	Inorg. Debris, DST and SST Containerized Waste	Inorganic Debris	CHG
MLLW-05		**Elemental Lead**		
200 West	222-S	222-S Elemental Lead Dangerous Mixed Waste Storage Area (DMWSA)	222-S Elemental Lead	FH
300 Area	324	324, Pb, elemental	Elemental Lead	FH
300 Area	327	327, Pb, elemental	Elemental Lead	FH
200 West	CWC	CWC, Pb, elemental	Elemental Lead	FH
200 West	PFP	234-5Z, Pb, elemental	Elemental Lead	FH
200 West	T Plant Complex	Pb, elemental	Storage-Elemental Lead	FH
Various areas, as required	Tank Farm Facilities	Pb, elemental, DST and SST Containerized Waste	Elemental Lead	CHG
200 West	WRAP	2336-W, Pb, elemental	Elemental Lead	FH
MLLW-06		**Elemental Mercury**		
300 Area	327	327, Hg, elemental	Elemental Mercury	FH
200 West	CWC	CWC, Hg, elemental	Elemental Mercury	FH
MLLW-07		**M-91 MLLW**		
200 West	CWC	CWC, M-91 MLLW	M-91 MLLW	FH
300 Area	HWTU	HWTU, M-91 MLLW	M-91 MLLW	
200 West	T Plant Complex	M-91 MLLW	Storage-M-91 MLLW	FH
200 West	Tank Farm Facilities	RH Mixed Waste	M-91 MLLW	

Table B-1. Data Sheet Index. (8 sheets)

Treatability Group Identifier		Treatability Group		
Area	Plant	Unit	Waste Stream	Contractor
MLLW-09		**Lead-Acid and Cadmium Batteries**		
300 Area	324	324, Batteries, Pb & Cd	Batteries	FH
300 Area	327	327, Batteries, Pb & Cd	Batteries	FH
200 West	CWC	CWC, Batteries, Pb & Cd	Lead-Acid and Cadmium Batteries	FH
200 West	T Plant Complex	Batteries, Pb & Cd	Storage-Lead-Acid and Cadmium Batteries	FH
MLLW-10		**Reactive Metals**		
200 West	222-S	Reactive Metals, Dangerous Mixed Waste Storage Area (DMWSA)	Reactive Metals and Metal Compounds	FH
300 Area	327	327, Reactive Metals	Reactive Metals Discarded Chemical	FH
200 West	CWC	CWC, Reactive Metals	Alkali Metals	FH
400 Area	FFTF	FFTF, Reactive Metals	FFTF	FH
PNNL-HWTU Waste		**PNNL Laboratory Waste**		
300 Area	HWTU	HWTU	HWTU	PNNL
PUREX Containment Bldg. Waste		**PUREX Containment Building**		
200 East	PUREX	202-A, Containment	202-A	BHI
PUREX Storage Tunnel Waste		**PUREX Storage Tunnels**		
200 East	PUREX	Storage Tunnels 1 and 2	Storage Tunnels 1 and 2	FH
Purgewater Storage and Treatment Facility		**PSTF**		
600 Area	Purgewater Storage And Treatment Facility	PSTF	Modu-Tanks	BHI
SST Waste		**Single-Shell Tank System**		
200 East	SST	SST-A	241-A	CHG
200 East	SST	SST-AR	244-AR	CHG
200 East	SST	SST-AX	241-AX	CHG
200 East	SST	SST-B	241-B	CHG
200 East	SST	SST-BX	241-BX	CHG

Table B-1. Data Sheet Index. (8 sheets)

Treatability Group Identifier		Treatability Group		
Area	Plant	Unit	Waste Stream	Contractor
200 East	SST	SST-BY	241-BY	CHG
200 East	SST	SST-C	241-C	CHG
200 East	SST	SST-CR	244-CR	CHG
200 East	SST	SST-IMUSTs	IMUSTs	CHG
200 West	SST	SST-S	241-S	CHG
200 West	SST	SST-SX	241-SX	CHG
200 West	SST	SST-T	241-T	CHG
200 West	SST	SST-TX	241-TX	CHG
200 West	SST	SST-TY	241-TY	CHG
200 West	SST	SST-U	241-U	CHG
T Plant EC-1 Condenser		**T Plant Complex EC-1 Condenser**		
200 West	221-T	221-T	EC-1 Condenser	FH
TRUM-Box		**M-91 T Plant TRUM, Large Boxed**		
200 West	CWC	CWC, TRUM boxes	TRUM Boxes	FH
TRUM-CH		**WRAP TRUM**		
200 East	200 Area Investigation	200 Area Investigation	200 Area Investigation	BHI
200 West	233-S	233-S	233-S	FH
200 West	CWC	CWC, CH TRUM	CH TRUM	FH
300 Area	HWTU-TRU	TRUM-CH Contact-Handled	TRU	PNNL
200 West	LLBG	TRU Retrieval	TRU Retrieval	FH
200 West	PFP	234-5Z, Ash	Hanford Ash Residues	FH
200 West	PFP	234-5Z, MHPP Solids	MHPP Solids	FH
200 West	PFP	234-5Z, O/MO Residues	Pu Oxides/Mixed Oxides Residues	FH
200 West	PFP	234-5Z, Pu Misc. Combustibles	Pu Miscellaneous Residues, Combustibles	FH
200 West	PFP	234-5Z, Pu Residues	Plutonium-Bearing Residues	FH
200 West	PFP	234-5Z, RF Ash	Rocky Flats Ash Residues	FH
200 West	PFP	234-5Z, SS&C	Sand, Slag, and Crucible Residues	FH

Table B-1. Data Sheet Index. (8 sheets)

Treatability Group Identifier		Treatability Group		
Area	Plant	Unit	Waste Stream	Contractor
200 West	WRAP	2336-W, CH TRUM	TRUM-CH	FH
TRUM-RH		**M-91 T Plant TRUM, RH**		
200 West	CWC	CWC, RH TRUM	RH TRUM	FH
TRU-PCB		**PCB TRUM and/or PCB TRU, CH**		
200 West	CWC	CWC, TRUM PCBs	TRUM PCBs	FH
200 West	PFP	234-5Z, Org Non-Debris	Hydraulic Fluids Contaminated with PCBs/Rad	FH

BHI	Bechtel Hanford, Inc.
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CH	contact handled
CHG	CH2M HILL Hanford Group, Inc.
CWC	Central Waste Complex
DCRT	double-contained receiver tank
DST	double-shell tank
ERDF	Environmental Restoration Disposal Facility
ETF	Effluent Treatment Facility
FFTF	Fast Flux Test Facility
FH	Fluor Hanford
HSTF	Hexone Storage and Treatment Facility
HWTU	Hanford Waste Treatment Unit
IMUST	inactive miscellaneous underground storage tank
LEF	liquid effluent facilities
LDR	land disposal restriction
MHPP	magnesium hydroxide precipitation process
MLLW	mixed low-level waste
O/C	organic/carbonaceous
PCB	polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PNNL	Pacific Northwest National Laboratory
PSTF	Purgewater Storage and Treatment Facility
PUREX	Plutonium-Uranium Extraction (Plant)
RCRA	*Resource Conservation and Recovery Act of 1976*
REDOX	Reduction Oxidation (Plant)
RH	remote handled
S&M	surveillance and maintenance
SST	single-shell tank
TRU	transuranic
TRUM	transuranic mixed
WRAP	Waste Receiving and Processing (Facility)
WSCF	Waste Sampling and Characterization Facility

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: 221-T RCRA Tank System

Treatability group/aggregated stream name: T Plant complex waste

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

Liquid mixed waste with settled solids/sludge (waste also contains PCBs at TSCA regulated concentrations)

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 74.000

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☐ Contact-handled ☑ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

Mixed fission products

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
L1000	AQUEOUS LIQUIDS/SLURRIES	94
S3223	NON-HOC ORGANIC SLUDGES	6

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

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☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

The confidence level is high because of existing analytical data on the liquid and sludge fractions from representative tanks.

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D005	TC-Barium	NA	>100 ppm	Analytical data	1.2 mg/L
D006	TC-Cadmium	NA	>1 ppm	"	0.69 mg/L
D007	TC-Chromium	NA	> 5 ppm	"	2.77 mg/L
D008	TC-Lead	Lead Charac.	>5 ppm	"	0.69 mg/L
F001	1,1,1-Trichloroethane	Spent Solvent	Unknown	Process knowledge	6.0 mg/kg
F002	Methylene chloride	Spent Solvent	"	"	30.0 mg/kg
F003	Acetone, MIK	Spent Solvent	"	"	160 & 33 mg/kg
F004	Cresols	Spent Solvent	"	"	5.6 mg/kg
F005	MEK	Spent Solvent	"	"	36 mg/kg

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

UHCs have not been determined for this waste stream.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

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☐ List: N/A

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☑ Yes ☐ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☑ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☑ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☑ Medium ☐ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

There is a potential for additional sampling to evaluate waste for long term storage (evaluate waste as liquid fraction continues to evaporate, rate estimated at approximately 8 gallons/day) and underlying hazardous/dangerous constituents.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details: N/A

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☐ Treating or plan to treat on site ☑ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

TBD

4.4 Treatment schedule information:

Dispositioning of the 221-T RCRA Tank System will be accomplished through the T Plant Complex Part B workshop process/negotiations with Ecology.

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

NA

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4.6 Proposed new Tri-Party Agreement treatment milestones:

None

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☐ No ☑ Unknown

If yes, describe: NOTE: Dispositioning of the 221-T RCRA Tank System will be accomplished through the T Plant Complex Part B workshop/negotiations with Ecology.

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

NA

4.9 Key assumptions: An estimated 8 gallons per day is evaporating.

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Either placed into the double-shell tank system or mixed waste disposal units (to be determined). NOTE: Discussions with Ecology regarding the storage of current waste within the 221-T RCRA Tank System until T Plant Complex TSD unit closure are pending. Closure currently planned for 2025.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 221-T/221-T, RCRA Tank Syst. **Waste stream** RCRA Tank System

Treatability/aggregated group identifier 221-T RCRA Tank System

Treatability/aggregated group name: T Plant complex waste

1.2 Applicable profile number(s) for this waste stream:

None

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Liquid mixed waste with settled solids. See Section 1.3.2 for additional description. NOTE: Discussions with Ecology regarding storage of current waste within the 221-T RCRA Tank System until T Plant Complex TSD unit closure are pending. Closure currently is planned for 2025.

1.3.2 History of how and where the waste was/is generated:

Waste resulting from decontamination activities at the 221-T and 2706-T including precipitation run-on and direct additions from other onsite and offsite generators (e.g., FFTF condensate, laboratory returns, etc.). These tanks were permanently removed from service in June of 1999. Engineering and administrative measures have been taken to ensure that no additional liquids are placed into this tank system.

1.3.3 Source of the hazardous constituents

Waste treatment process, decontamination, facility or equipment operation and maintenance waste, and analytical laboratory waste.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

process knowledge, analytical data

1.3.5 Additional notes:

None

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☐ DST ☐ SST

☐ Other (explain): N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

The waste was generated and placed into the 221-T RCRA Tank System.

2.1.2 Timeframe when waste was placed into storage:

Waste was received in these tanks throughout the history of the 221-T until June 1999 when the tanks were removed from service.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
221-T BUILDING	7 tanks

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 74

Date of inventory values: 05/24/2000

Comments on waste inventory: The liquid fraction of this waste is evaporating at approximately 8 gallons per day, but evaporation rate fluctuates with weather conditions.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used: The 221-T RCRA Tank System wastes are stored in tanks that do not have secondary containment and do not have an integrity assessment. As such, this tank system has been removed from service and will no longer accept additional waste.

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☑ DST ☑ Other area(s) list: Refer to DOE/RL Letter 01-RCA-192 for discussion on proposed management of this waste.

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Totals	0.000

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: Oct. 2000, A&E-00-ASS-072

☐ Assessment has been scheduled. Scheduled date: Assessment currently scheduled for July 2003

☐ Other. Explain: N/A

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain: N/A

2.11 Is further characterization necessary?

☐ Yes ☐ No ☑ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
Dispositioning of the 221-T RCRA Tank System will be accomplished through the T Plant Complex Part B workshop process with Ecology.

If yes, provide Tri-Party Agreement milestone number(s): N/A

2.12 Other key assumptions related to storage, inventory, and generation information:

Negotiations on closure approach of the 221-T RCRA Tanks System will be accomplished through the T Plant Complex Part B workshop process with Ecology.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted: See Section 3.3 for discussion on waste min.

If yes, provide document number or other identification: N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

An estimated 8 gallons per day are evaporating. Assuming this rate continues, the liquid fraction will have evaporated in 5.8 years. In addition, administrative and engineering controls have been put in place to prevent the addition of liquid into this tank system.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 11 m3

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	11.000		
2002	11.000		
2003	11.000		
2004	11.000		
2005	11.000		
Totals	55.000		

3.3.3 Bases and assumptions used in above estimates:

An estimated 8 gallons per day are evaporating from waste currently in storage. The above represents a reduction in liquid waste from evaporation. In 2001, there was a total of 74 cubic meters. From 2002 to 2005 represents a reduction in the volume of liquid waste from evaporation. Disregard the totals as this is incorrect. By 2005, at an evaporation rate of approximately 8 gallons per day, 28 cubic meters of liquid waste will remain. In addition, administrative and engineering controls have been put in place to prevent additional liquids from entering this tank system.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: 222-S T8 RH-MLLW

Treatability group/aggregated stream name: 222-S laboratory complex T8 tunnel waste

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

This waste stream is comprised of debris which has come into contact with waste from the 219-S Waste Handling Facility (WHF) tank system waste. The debris is designated as remote-handled mixed low-level waste (RH MLLW) as a result of this contact.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0.200

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	0.000		0.000
2002	0.000		0.000
2003	0.000		0.000
2004	0.000		0.000
2005	0.000		0.000
Totals	0.000		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☐ Contact-handled ☑ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

Remote handled (RH) waste must be shielded down to contact-handled (CH) levels before it can be accepted into a Hanford TSD unit; therefore, RH waste packages in Hanford TSDF are actually input into SWITS as CH. To determine if a waste package contains RH waste, the radionuclide, dose rate, physical form and generator information in SWITS are reviewed for clues that might lead a reviewer to believe a waste may be RH. Since the T-8 Tunnel waste may be high dose, RH will apply to this waste stream.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter	Typical or

LDR REPORT TREATABILITY GROUP DATA SHEET

Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
S5000	DEBRIS WASTE	100

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

This waste matrix that came in contact with the debris is the same waste contained in 219-S WHF.

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
F001	1,1,1-Trichloroethane	Spent Solvent	<6 mg/kg	***	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	< 30 mg/kg	***	30 mg/kg
F003	Acetone & Hexone	Spent Solvent	<160 mg/kg	***	160 mg/kg
F004	o-Cresol & p-Cresol	Spent Solvent	< 5.6 mg/kg	***	5.6 mg/kg
F005	Methyl Ethyl Ketone	Spent Solvent	< 36 mg/kg	***	36 mg/kg

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☐ List:

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

☐ Yes ☑ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☐ Yes ☑ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☐ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

Characterization of the waste is based on characterization of the 219-S waste. Only F and D waste codes originally applied to the piping before it was taken out of service. The piping was rinsed prior to placement in the tunnel. Therefore, the piping no longer carries D waste codes, and only F waste codes apply. Underlying Hazardous Constituents do not apply.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details:

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☐ Treating or plan to treat on site ☑ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

To Be Determined

4.4 Treatment schedule information:

Treatment is scheduled during the 222-S Laboratory closure in 2035.

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

To Be Determined

4.6 Proposed new Tri-Party Agreement treatment milestones:

To Be Determined

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

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☐ Yes ☐ No ☑ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

To Be Determined

4.9 Key assumptions: NA

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Subject waste will be disposed of properly at the time of the closure of 219-S WHF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 222-S/222-S T-8 Tunnel Waste **Waste stream** T-8 Tunnel Waste

Treatability/aggregated group identifier 222-S T8 RH-MLLW

Treatability/aggregated group name: 222-S laboratory complex T8 tunnel waste

1.2 Applicable profile number(s) for this waste stream:

NA

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Waste is generated from removal of pipelines and other debris used in the transfer of aqueous analytical waste from the 222-S laboratory to the 219-S Waste Handling Facility (WHF).

1.3.2 History of how and where the waste was/is generated:

The waste consist of debris (used pipes that transferred chemicals used during analytical procedures, unused samples, standard and reagents).

1.3.3 Source of the hazardous constituents

The source of the hazardous constituents is 222-S Laboratory waste entering 219-S Waste Handling Facility (WHF).

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Approval of waste entering 219-S WHF is in accordance 222-S Waste Analysis Plan (WAP) DOE/RL-91-27.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): This debris waste stream is currently in the T8 tunnel.

2.1.1 How was the waste managed prior to storage?

This waste was being staged in the T-8 tunnel per Ecology approval (Request for Approval to

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Stage Out of Service Ancillary Drain Piping in the 222-S Laboratory Service Tunnels, dated October 10, 1997) until closure of the 222-S Complex.

2.1.2 Timeframe when waste was placed into storage:

10\1997

2.2 Inventory locations:

Building/room number	Number of containers/tanks
219-S T8 TUNNEL	0

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0.2

Date of inventory values: 12/31/2000

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☐ DST ☑ Other area(s) list: This waste has been stored in a shielded area of T-8 tunnel. Final disposition will be determined at the time of 219-S WHF closure.

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		0.000
2002	0.000		0.000
2003	0.000		0.000
2004	0.000		0.000
2005	0.000		0.000
Totals	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: May 2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

None

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: NA

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

No more waste is schedule for generation until closure of 219-S WHF except for waste generated during general maintenance of the 219-S WHF.

3.3 Waste minimization schedule

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.1 Reduction achieved during calendar year (volume or mass): 0 kg

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		0
2002	0.000		0
2003	0.000		0
2004	0.000		0
2005	0.000		0
Totals	0.000		0

3.3.3 Bases and assumptions used in above estimates:

Per agreement with the State of Washington Department of Ecology the waste was inventoried and would remain in the T8 Tunnel until closure of the 219-S WHF.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: 324 Bldg. Radiochemical Engineering Cell Waste

Treatability group/aggregated stream name: 324 Building radiochemical engineering cells

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

WSRd# 20J-00. High activity radioactive waste containing regulated quantities of toxic heavy metals. The dispersible material was generated from the research activities from 1965 to 1987. The filters were generated from the treatment of HLV tank waste. Some mixed waste residue will be generated from the future REC clean out and deactivation.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 50.000

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	50.000		
2002	10.000		
2003	1.200		
2004	1.800		
2005	1.400		
Totals	64.400		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☑ Transuranic ☐ Low-level

3.1.2 Handling (as currently packaged/stored) ☐ Contact-handled ☑ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

Waste is highly contaminated.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
X7210	ELEMENTAL LEAD	2%
S5310	PLASTIC/RUBBER DEBRIS	2%

LDR REPORT TREATABILITY GROUP DATA SHEET

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
S5110	METAL DEBRIS	96%

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

None

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D005	Barium	NA	420 ppm	Sample analysis	21 mg/l TCLP
D006	Cadmium	TC-Cadmium	1.0 ppm	Sample analysis	0.11 mg/l TCLP
D007	Chromium	NA	6.3 ppm	Sample analysis	0.60 mg/l TCLP
D008	Lead	Rad. Lead Solids		Process knowledge	MACRO
D008	Lead	TC-Lead	34.6 ppm	Sample analysis	0.75 mg/l TCLP

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

LDR REPORT TREATABILITY GROUP DATA SHEET

☐ List:

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☐ Yes ☑ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☐ Yes ☑ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☐ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

Only metal filters are regulated for Ba, Cd, Cr, and Pb. The other wastes, except for lead bricks and lead plugs, are regulated for Cd, Cr, and Pb.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details:

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☐ Treating or plan to treat on site ☑ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

TBD

4.4 Treatment schedule information:

N/A

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

4.6 Proposed new Tri-Party Agreement treatment milestones:

LDR REPORT TREATABILITY GROUP DATA SHEET

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☑ Yes ☐ No ☐ Unknown

If yes, describe: Waste minimization will be considered during the developing and/or selecting the treatment method.

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

TBD

4.9 Key assumptions:

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

After treatment, waste will be disposed of at WIPP

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 324/324, REC **Waste stream** Radiochemical Engineering Cell

Treatability/aggregated group identifier 324 Bldg. Radiochemical Engineering Cell Waste

Treatability/aggregated group name: 324 Building radiochemical engineering cells

1.2 Applicable profile number(s) for this waste stream:

BWHC-20J-0002-01

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

B-Cell dispersible material and equipment, REC pipe trench sludge and piping, filters, lead shielding plugs, residue from further REC clean up activities.

1.3.2 History of how and where the waste was/is generated:

Waste is generated from the clean-up of the hot cells and REC pipe trench.

1.3.3 Source of the hazardous constituents

The hazardous constituents came from feed materials to support various research and development projects that were performed in the REC. This information is discussed in detail in DOE/RL-96-73, Rev.1, "324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan".

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data, process knowledge.

1.3.5 Additional notes:

NA

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): B-Cell waste materials are non-containerized materials and equipment. Waste are being packaged in shippable containers. The remaining waste is in the REC or in the REC pipe trench.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

In accordance with the "324 Building Radiochemical Engineering Cells, High Level Vault, Low Level Vault, and Associated Areas Closure Plan", DOE/RL-96-73.

2.1.2 Timeframe when waste was placed into storage:

1996 - prior to transfer of facility to Fluor Hanford.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
324 REC	

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters):	50
Date of inventory values:	12/31/2000
Comments on waste inventory:	Waste volume is estimated based on the container volume.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used: NA

2.5 Planned management areas for storage of this waste: ☐ Current location ☑ CWC ☐ DST ☐ Other area(s) list: NA ☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	50.000		
2002	10.000		
2003	1.200		
2004	1.800		
2005	1.400		
Totals	64.400		

2.7 DOE Storage Compliance Assessment information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: June 2002

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-89-02, M-92-14, M-92-15 and M-92-16

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

NA

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain: NA

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
NA

If yes, provide Tri-Party Agreement milestone number(s):NA

2.12 Other key assumptions related to storage, inventory, and generation information:

NA

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted: NA

If yes, provide document number or other identification: NA

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: Not scheduled at this time

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Waste minimization is accomplished through waste segregation and decontamination.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

NA

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: 618-4 DU/Oil Drums

Treatability group/aggregated stream name: Depleted uranium in oil from 618-4 Burial Ground

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

The drums contain depleted uranium chips, turnings, cuttings, and sludges immersed in oil discovered in a burial ground being excavated under a CERCLA ROD. The 618-4 Burial Ground was operated from 1955 to 1961. No information is available about the history or source of the waste. The drums were discovered in March 1998 during remediation activities. In April 1998, each of the excavated drums was placed in a vented overpack and those with low oil content were stabilized with mineral oil. The drums are staged within the Area of Contamination (AOC) and are being managed in accordance with CERCLA requirements. Those drums that were not excavated will remain in the burial ground until treatment of the current inventory begins.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 55.000

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	0.000		
2002	56.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	56.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☑ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

Based on radiological characterization, U235 activity level is below the level that naturally occurs in uranium, therefore it is depleted. A complete radiological analysis was done, and uranium isotopes were the only radionuclides found. All data supports this conclusion, and the confidence level is high.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

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Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
X7530	PYROPHORIC FINES	100

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

None

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D008	Lead		69 ppm	TCLP	5.0 mg/L TCLP
D018	Benzene		15 ppm	TCLP	10 mg/kg, meet 268.48
D022	Chloroform		16 ppm	TCLP	6 mg/kg meet 268.48
D039	Tetrachloroethylene		16 ppm	TCLP	6 mg/kg, meet 268.48
D040	Trichloroethylene		197 ppm	TCLP	16 mg/kg, meet 268.48
UHC	Methylene chloride				30 mg/kg
UHC	Barium				7.6 mg/L TCLP
UHC	Mercury				0.025 mg/L TCLP
UHC	Methyl ethyl ketone				30 mg/kg
UHC	PCBs				10 mg/kg
UHC	Toluene				10 mg/kg
UHC	Ethyl benzene				10 mg/kg
UHC	Xylenes				30 mg.kg
UHC	Pyrene				8.2 mg/kg

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EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
UHC	Naphthalene				5.6 mg/kg
UHC	Di-n-octyl Phthalate				28 mg/kg
UHC	Bis(2-Ethylhexyl) phthalate				28 mg/kg
UHC	Selenium				0.16 mg/L TCLP
WP01	WA State Persistent				

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☐ List:

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☑ Yes ☐ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☑ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☑ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

The waste matrix consists of ~35 wt% depleted uranium. Under certain conditions, uranium metal is pyrophoric. The uranium is immersed in oil (to mitigate the pyrophoric attribute) which makes up the balance of the waste matrix. The depleted uranium and oil

LDR REPORT TREATABILITY GROUP DATA SHEET

are considered as a single matrix. The contaminant levels were determined through sampling and analysis, which is why the confidence level is high. These levels will also be used for designating the remaining drums as they are retrieved.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details:

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☑ Treating or plan to treat off site

☐ Treating or plan to treat on site ☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Treatment for this waste stream will be vitrified at ATG. Once the waste is treated, the residuals will be disposed at ERDF. Start up at ATG is going slower than planned, so the waste is not likely to be treated until 2002.

4.4 Treatment schedule information:

TBD per TPA milestone M-16-03F

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

M-16-03F for disposal.

4.6 Proposed new Tri-Party Agreement treatment milestones:

N/A

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☐ No ☑ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

None

4.9 Key assumptions: Do not know the conditions of the drums yet to be retrieved. Treatment forecasts are based on the assumption that the treatment facility will be operating

5.0 WASTE STREAM DISPOSAL

LDR REPORT TREATABILITY GROUP DATA SHEET

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Expect the treatment residues to go to the onsite Environmental Remediation Disposal Facility for disposal.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 618-4/618-4 DU/Oil Drums **Waste stream** DU/Oil Drums

Treatability/aggregated group identifier 618-4 DU/Oil Drums

Treatability/aggregated group name: Depleted uranium in oil from 618-4 Burial Ground

1.2 Applicable profile number(s) for this waste stream:

Not applicable

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Drums of depleted uranium metal chips, turnings, cuttings, and sludges immersed in oil, found in the 618-4 Burial Grounds.

1.3.2 History of how and where the waste was/is generated:

The 618-4 Burial Ground was operated from 1955 to 1961. No information is available about the history or source of the waste. The drums were discovered in March 1998 during remediation activities. An estimated 1185 drums were in the burial ground. In April 1998, each of the 260 excavated drums was placed in a vented overpack and those with low oil content were stabilized in mineral oil. The overpacked drums are staged within the Area of Contamination and are being managed in accordance with CERCLA requirements. The remaining drums will be retrieved from the burial ground once treatment of the current inventory begins.

1.3.3 Source of the hazardous constituents

Unknown

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data

1.3.5 Additional notes:

Depleted Uranium chips, turnings, cuttings, and sludges immersed in oil

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☑ Container (pad) ☐ Container (covered) ☑ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): The containers retrieved to date have been overpacked and are stored in the Area

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

of Contamination at the CERCLA site. The balance of the waste containers remain in the burial ground.

2.1.1 How was the waste managed prior to storage?

Waste was located in 618-4 Burial Grounds until encountered during remediation activities.

2.1.2 Timeframe when waste was placed into storage:

Drums retrieved in April 1998

2.2 Inventory locations:

Building/room number	Number of containers/tanks
618-4 AOC	260 drums

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 55

Date of inventory values: 12/31/2000

Comments on waste inventory: Retrieved 260 30-gallon containers, which were overpacked following retrieval. Additional drums will be retrieved upon completion of the project.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC ☐ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	56.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	56.000		

2.7 DOE Storage Compliance Assessment information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: No assessment scheduled at this time

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

None

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

In April 1998, a release was identified during remediation of the burial ground. A discovery notification was made to EPA in accordance with CERCLA 103.

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

Waste forecast volumes identified for the 618-4 waste stream are dependent upon whether the work scope and funding are approved as part of the Work Plan for FY 2002 and subsequent years.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification: N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: This waste stream is no longer generated.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

None.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

3.3.3 Bases and assumptions used in above estimates:

This is an existing waste stream that will not be generated in the future.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: B Plant

Treatability group/aggregated stream name: B Plant Containment Building Storage

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

Stream consists of failed equipment (e.g., process jumpers, pumps, etc.) used in the 221-B canyon. Contaminated debris/equipment derived from the processing of "F" listed wastes for the recovery of strontium and cesium. Also contains elemental lead used for counterbalances and shielding. The current waste inventory is 294,000 kg, and no additional waste will be stored at this location. The facility is under long term surveillance and maintenance.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): _____

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☐ Contact-handled ☑ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

Waste requires remote handling due to radioactivity level. Confidence high.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
X7210	ELEMENTAL LEAD	1
S5110	METAL DEBRIS	99

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☑ Medium ☐ High

3.2.3 Comments on matrix characteristics and/or confidence level:

Waste inventories are currently maintained by estimates of mass. A more detailed determination of waste volume would require extensive item identification and specific drawing information. At this time, obtaining this information is cost and schedule prohibitive.

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
F001	1,1,1-Trichloroethane	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45
F002	Methylene Chloride	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45
F003	Acetone & Hexone	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45
F004	o-Cresol & p-Cresol	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45
F005	Methyl Ethyl Ketone	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

UHCs are not applicable to this waste unless waste is determined to be corrosive.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☐ List:

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☐ Yes ☑ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☐ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☐ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☑ Medium ☐ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

Potential exists for other waste characteristics to exist such as corrosivity. However, unless each individual component in storage is evaluated for additional characteristics, an assumption has been made that it is unlikely additional waste codes will be required.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details:

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☐ Treating or plan to treat on site ☑ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Until a final decision is made on the Canyon Disposition Initiative, no commitments will be made for waste treatment and disposal.

4.4 Treatment schedule information:

Treatment schedule will be determined after a final decision has been made on the Canyon Disposition Initiative

LDR REPORT TREATABILITY GROUP DATA SHEET

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

B-Plant is under long term surveillance and maintenance in accordance with Section 8.0, Facility Decommissioning Process, of the Tri-Party Agreement.

4.6 Proposed new Tri-Party Agreement treatment milestones:

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☐ No ☑ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

NA

4.9 Key assumptions:

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Disposition of B-Plant waste will be determined after a final decision has been made on the Canyon Disposition Initiative. If waste is not left in place, waste will be disposed of in the LLBG Subtitle-C or LLBG LLW trenches depending on the treatment performed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: B Plant/221-B, Containment **Waste stream** Containment Building Storage

Treatability/aggregated group identifier: B Plant

Treatability/aggregated group name: B Plant Containment Building Storage

1.2 Applicable profile number(s) for this waste stream:

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Failed equipment (e.g., process jumpers, pumps, etc.) used in the 221-B canyon.

1.3.2 History of how and where the waste was/is generated:

Waste was generated during B-Plant operations and facility deactivation

1.3.3 Source of the hazardous constituents

B-Plant operations

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): Containment building

2.1.1 How was the waste managed prior to storage?

Failed process equipment located in the containment building.

2.1.2 Timeframe when waste was placed into storage:

Waste was generated until September 1998 and stored in the B-Plant Complex

2.2 Inventory locations:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Building/room number	Number of containers/tanks
221-B	

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): _____

Date of inventory values: 12/31/2000

Comments on waste inventory: Quantity estimated at 294,000 kg. A more detailed determination of waste volume would require extensive item identification and specific drawing information. At this time, obtaining this information is cost and schedule prohibitive

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☐ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: 12/2000, A&E-00-ASS-075

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain: Next assessment scheduled for April 2003

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

B-Plant is under long term surveillance and maintenance in accordance with Section 8.0 of the Tri-Party Agreement

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

No additional waste will be stored at this location

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg

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2001	0.000	
2002	0.000	
2003	0.000	
2004	0.000	
2005	0.000	
Totals	0.000	

3.3.3 Bases and assumptions used in above estimates:

No additional waste will be generated.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: B Plant Cell 4 Waste

Treatability group/aggregated stream name: B Plant complex cell 4 waste

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

Waste resulted from WESF hot cell maintenance waste (i.e. manipulator boots, light bulbs, HEPA filters, misc. debris). No additional waste will be stored in this location as the facility is under long term surveillance and maintenance.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 1.400

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☐ Contact-handled ☑ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

High personnel dose potential, remote handled. Range from 200 mR to 500 R at 30 cm. Confidence high. B Plant transitioned to Environmental Restoration program; no additional waste will be placed in storage.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
X7210	ELEMENTAL LEAD	<1
S5190	UNKNOWN/OTHER INORGANIC DEBRIS	>99

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

Lead component represents <1% of the entire waste matrix as it is mixed with other miscellaneous non-hazardous radioactive materials in the drum due to packaging constraints in WESF. The lead component is lead solder from contaminated light bulbs. However, due to the packaging constraints, if a drum contains lead in any proportions, the entire drum is managed appropriately for the lead component.

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D008	Lead-contaminated	Waste Lead Char	>5 mg/L	Process knowledge	5.0 MG/L

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.
UHCs must be determined.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☐ List:

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☐ Yes ☐ No ☑ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

LDR REPORT TREATABILITY GROUP DATA SHEET

☐ Yes ☐ No ☑ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☐ ≥ 50 ☑ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

None

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details:

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☐ Treating or plan to treat on site ☑ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Disposition of B-Plant waste will be determined after a decision is made on the Canyon Disposition Initiative.

4.4 Treatment schedule information:

Schedule will be determined after a final decision has been made on the Canyon Disposition Initiative.

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

B-Plant is under long term surveillance and maintenance in accordance with Section 8.0, Facility Decommissioning Process, of the Tri-Party Agreement

4.6 Proposed new Tri-Party Agreement treatment milestones:

N/A

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☐ No ☑ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

4.9 Key assumptions:

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Final decision on the Canyon Disposition Initiative will affect the waste stream disposal options. If appropriate, the waste will be disposed of in the LLBG Subtitle-C or LLBG LLW trenches depending on the treatment performed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: B Plant/221-B, Cell 4 **Waste stream** Cell 4

Treatability/aggregated group identifier: B Plant Cell 4 Waste

Treatability/aggregated group name: B Plant complex cell 4 waste

1.2 Applicable profile number(s) for this waste stream:

NA

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

WESF hot cell maintenance waste (i.e., manipulator boots, light bulbs, HEPA filters, misc. debris).

1.3.2 History of how and where the waste was/is generated:

Waste was generated during B-Plant and WESF Operations

1.3.3 Source of the hazardous constituents

Hazardous constituents resulting from facility operations

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge

1.3.5 Additional notes:

Waste volumes are from past operations. The facility is now under Surveillance and Maintenance. No additional waste volumes are generated or stored at this location.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☑ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Waste was located in WESF hot cells.

2.1.2 Timeframe when waste was placed into storage:

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Drums placed in storage between 1988 to 1997

2.2 Inventory locations:

Building/room number	Number of containers/tanks
B-PLANT CELL 4	7 drums

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 1.4

Date of inventory values: 12/31/2000

Comments on waste inventory: No additional waste will be stored at B-Plant

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC ☐ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: 12/2000, A&E-00-ASS-075

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain: The next DOE compliance assessment is scheduled for April 2003

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

B-Plant is under long term surveillance and maintenance in accordance with Section 8.0 of the Tri-Party Agreement.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

No additional waste will be stored at this location.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

3.3.3 Bases and assumptions used in above estimates:

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: Cesium and Strontium Capsules

Treatability group/aggregated stream name: Cesium and Strontium Capsules

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

Cesium and strontium were reclaimed from Tank Farm waste as a product, separated and purified at B Plant, and converted to dry salt for storage at WESF. The cesium and strontium capsules were declared waste in 1997 with the application for a Part A, Form 3 permit application. The subject waste consists of 1335 cesium capsules and 601 strontium capsules. The capsules are stored in pool cells at WESF.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 2.000

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☑ High-level ☐ Transuranic ☐ Low-level

3.1.2 Handling (as currently packaged/stored) ☐ Contact-handled ☑ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

The contents consist of purified cesium and strontium salts in the form of cesium chloride and strontium fluoride. The curie content of each capsule varies depending on when it was reclaimed and the amount of impurities it contains. With the daughter products included, It is estimated that there are 47.3 mega curies of cesium and 20.3 mega curies of strontium as of 12/31/2000.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter	Typical or

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Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
S3140	SALT WASTE	100

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

None

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D005	TC-Barium	Radioactive	0.1-2%	(2), (3)	HLVIT
D005	TC-Barium	Radioactive	0.55-0.94%	(1), (2)	HLVIT
D006	TC-Cadmium	Radioactive	<0.1%	(2), (3)	HLVIT
D006	TC-Cadmium	Radioactive	0.02%	(1), (2)	HLVIT
D007	TC-Chromium	Radioactive	<0.2%	(2), (3)	HLVIT
D007	TC-Chromium	Radioactive	0.02-1.4%	(1), (2)	HLVIT
D008	TC-Lead	Radioactive	<0.2%	(2), (3)	HLVIT
D008	TC-Lead	Radioactive	0.14-1.4%	(1), (2)	HLVIT
D011	TC-Silver	Radioactive	Unknown	(2), (3)	HLVIT
D011	TC-Silver	Radioactive	NA	(1), (2)	HLVIT
WT02	Toxic, DW	NA		(3)	None
WT02	Toxic, DW	NA		(1)	None

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

(1) Cesium capsules
(2) Process knowledge (flowsheets and history)
(3) Strontium capsules

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☐ List:

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☐ Yes ☑ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☐ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☐ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

None

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details:

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☑ Treating or plan to treat on site ☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Currently plan to treat by vitrification.

4.4 Treatment schedule information:

Capsules are expected to be stored at the WESF until 2017. They will then be shipped to the high-level waste vitrification unit for treatment (2013 through 2017)

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

M-92-01

LDR REPORT TREATABILITY GROUP DATA SHEET

4.6 Proposed new Tri-Party Agreement treatment milestones:

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☐ No ☑ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

TBD

4.9 Key assumptions: NA

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Disposal with vitrified tank waste in a national geologic repository.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: WESF/225-B, Cs & Sr Capsules **Waste stream** Cs and Sr Capsules

Treatability/aggregated group identifier Cesium and Strontium Capsules

Treatability/aggregated group name: Cesium and Strontium Capsules

1.2 Applicable profile number(s) for this waste stream:

N/A

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

The capsules contain cesium chloride and strontium fluoride salts that are contaminated with barium, cadmium, chromium, lead and silver from process impurities. The maximum outer container height is approximately 53 centimeters (~21 inches) and a maximum diameter of 8 centimeters (~3 inches).

1.3.2 History of how and where the waste was/is generated:

Cesium and strontium were separated from tank farm waste, converted to solid cesium chloride and strontium fluoride salts, and encapsulated for storage at WESF until final disposition or deployment for commercial use.

1.3.3 Source of the hazardous constituents

Process impurities and decay products from reclamation of DST and SST wastes.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

HNF-7342 "Waste Encapsulation and Storage Facility Waste Analysis Plan", Process knowledge

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): underwater container storage in indoor pool cells.

2.1.1 How was the waste managed prior to storage?

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

The salts were considered a product, and used as irradiation sources.

2.1.2 Timeframe when waste was placed into storage:

The capsules were declared waste June 14, 1997

2.2 Inventory locations:

Building/room number	Number of containers/tanks
225B/POOL CELLS	1936 Capsules

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 2

Date of inventory values: 12/31/2000

Comments on waste inventory: There are 1335 cesium capsules and 601 strontium capsules stored in the pool cells. Pool Cell 1 contains 23 cesium capsules. Pool cell 3 contains 197 cesium and 147 strontium capsules. Pool cell 4 contains 138 cesium and 163 strontium capsules. Pool cell 5 contains 162 cesium and 137 strontium capsules. Pool cell 6 contains 223 cesium and 150 strontium capsules. Pool Cell 7 contains 592 cesium and 4 strontium capsules.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☐ DST ☐ Other area(s) list: The waste will be stored at their current location until 2013. From 2013 through 2017, the capsules will be shipped to vitrification to be blended with the high level waste feed currently stored in the double shell tanks.

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2001	0.000
2002	0.000
2003	0.000
2004	0.000
2005	0.000
Totals	0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: September 2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

None

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0 m3

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: DST Waste

Treatability group/aggregated stream name: DST Waste

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

Basic aqueous solution that may contain suspended material and/or settled solids (sludge and saltcake). Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Wastes have been stored in the DST system from 1970 to the present.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 80,175.100

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	13,603.900		
2002	6,159.900		
2003	4,866.900		
2004	1,333.900		
2005	10,062.900		
Totals	36,027.500		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☑ High-level ☐ Transuranic ☐ Low-level

3.1.2 Handling (as currently packaged/stored) ☐ Contact-handled ☑ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

DST system wastes contain the following major radionuclides: 3H, 14C, 60Co, 63Ni, 90Sr, 90Y, 93Zr, 93mNb, 99Tc, 106Ru, 113mCd, 125Sb, 126Sn, 129I, 134Cs, 137Cs, 137mBa, 151Sm, 152Eu, 154Eu, 155Eu, 234U, 235U, 238U, 238Pu, 239Pu, 240Pu, 241Am, and 241Pu.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)

LDR REPORT TREATABILITY GROUP DATA SHEET

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
S9000	UNKNOWN/OTHER SOLIDS	23
L1220	BASIC AQUEOUS SLURRIES	77

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

The major constituents of DST system wastes are water and sodium salts of aluminates, nitrate, nitrite, phosphate, hydroxide, carbonate, and sulfate. Some calcium and potassium salts are also present. Chemically complexed waste in the DSTs contain sodium salts of chelating agents ethylenediamine-tetraacetic acid and n-hydroxyethylenediamine-tetraacetic acid. There may also be detectable concentrations of halogenated and nonhalogenated organic compounds and heavy metals such as lead, chromium and cadmium.

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D001	Ignitability	Low TOC Ignitable char liquid	(5)	(5)	DEACT(2); RORGS; COMBST
D002	Corrosivity	(1)	(5)	(5)	HLVIT
D003	Reactivity	Reactive Cyanides	(5)	(5)	590/30 mg/kg
D004	Arsenic	(1)	(5)	(5)	HLVIT
D005	Barium	(1)	(5)	(5)	HLVIT
D006	Cadmium	(1)	(5)	(5)	HLVIT
D007	Chromium	(1)	(5)	(5)	HLVIT
D008	Lead	(1)	(5)	(5)	HLVIT
D009	Mercury	(1)	(5)	(5)	HLVIT
D010	Selenium	(1)	(5)	(5)	HLVIT

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D011	Silver	(1)	(5)	(5)	HLVIT
D018	Benzene	NA	(5)	(5)	10 mg/kg (2)
D019	Carbon Tetrachloride	NA	(5)	(5)	6.0 mg/kg (2)
D022	Chloroform	NA	(5)	(5)	6.0 mg/kg (2)
D028	1,2-Dichloroethane	NA	(5)	(5)	6.0 mg/kg (2)
D029	1,1-Dichloroethylene	NA	(5)	(5)	6.0 mg/kg (2)
D030	2,4-Dinitrotoluene	NA	(5)	(5)	140 mg/kg (2)
D033	Hexachlorobutadiene	NA	(5)	(5)	5.6 mg/kg (2)
D034	Hexachloroethane	NA	(5)	(5)	30 mg/kg (2)
D035	Methyl Ethyl Ketone	NA	(5)	(5)	36 mg/kg (2)
D036	Nitrobenzene	NA	(5)	(5)	14 mg/kg (2)
D038	Pyridine	NA	(5)	(5)	16 mg/kg (2)
D039	Tetrachloroethylene	NA	(5)	(5)	6.0 mg/kg (2)
D040	Trichloroethylene	NA	(5)	(5)	6.0 mg/kg (2)
D041	2,4,5-trichlorophenol	NA	(5)	(5)	7.4 mg/kg (2)
D043	Vinyl Chloride	NA	(5)	(5)	6.0 mg/kg (2)
F001	1,1,1-Trichloroethane	Spent Solvent	(5)	(5)	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	(5)	(5)	30 mg/kg
F003	Methyl Isobutyl Ketone	Spent Solvent	(5)	(5)	33 mg/kg
F003	Acetone	Spent Solvent	(5)	(5)	160 mg/kg
F004	Cresols	Spent Solvent	(5)	(5)	5.6 mg/kg (o, m & p); 11.2 mg/kg (mixed)
F005	Methyl Ethyl Ketone	Spent Solvent	(5)	(5)	36 mg/kg
UHC(4)	Selenium	NA	(5)	(5)	5.7 mg/l (6)
UHC(4)	Antimony	NA	(5)	(5)	1.15 mg/l (6)
UHC(4)	Beryllium	NA	(5)	(5)	1.22 mg/l (6)
UHC(4)	Cyanide (total)	NA	(5)	(5)	590 mg/l (6)
UHC(4)	Nickel	NA	(5)	(5)	11 mg/l (6)
UHC(4)	Thallium	NA	(5)	(5)	0.2 mg/l (6)

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
UHC(4)	PCBs (sum of Aroclors)	NA	(5)	(5)	10 mg/l (6)
WP01	Persistent, EHW & DW	NA	(5)	(5)	NONE (3)
WP02	Persistent, DW	NA	(5)	(5)	NONE
WT01	Toxic, EHW & DW	NA	(5)	(5)	NONE (3)
WT02	Toxic, DW	NA	(5)	(5)	NONE

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

1) Radioactive high-level wastes generated during the reprocessing of fuel rods.
2) and meet 40CFR268.48.
3) Mixed extremely hazardous wastes can be land-disposed in Washington State in DOE facilities in accordance with RCW 70.105.050 (2).
4) UHCs which have been identified in waste entering the DST system since 1995. For more information see comments in 3.3.6
(5) See Section 3.3.6
(6) TCLP

Tank Waste is subject to non-wastewater treatment standards.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☐ List:

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☐ Yes ☐ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☐ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☐ ≥ 50 ☐ Unknown

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

The waste codes assigned to DST system waste are based on process knowledge, and analysis. Dangerous waste constituents in individual tanks will vary based upon process knowledge. Since 1995, LDR requirements have been documented on waste profile sheets for waste sent to the DST system. On September 25, 1995, waste acceptance criteria for waste entering the DST system specifically required the identification of UHCs. There is no documentation of LDR requirements for waste placed in the SST system and for waste sent to the DST system prior to 1995. A list is kept of the UHCs that have been documented since 1995. At this time, UHCs relevant to DOE activities at Hanford are considered or can reasonably be expected to be present in the waste per references PNNL-11927, PNNL-11943, and PNNL-12039). It has been determined per the framework Agreement for Management of PCBs in Hanford Tank Waste, dated August 31, 2001 that some DSTs contain PCB remediation waste. The risk-based disposal approval process will address the disposal of PCB remediation waste through the waste treatment plant where it is being addressed as a constituent of concern.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details: Tank waste is not currently being treated for LDR concerns.

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☑ Treating or plan to treat on site ☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

DST system wastes will be retrieved, pretreated, and solidified for disposal. The wastes may be vitrified in a process that will: destroy or extract organic and cyanide constituents to below treatment standards, neutralize or deactivate dangerous waste and extremely hazardous waste, and immobilize toxic metals.

4.4 Treatment schedule information:

Per TPA milestone M-62-00:
M-62-09, Hot Start - 12/31/2007
M-62-00A, Complete Phase I Pretreatment - 2/2018

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

M-62-00, Complete Pretreatment Processing/Vitrification; M-92-00, Acquisition of New Facilities; M-90-00, New Facilities for IHLAW and ILAW, M-20-00, Permitting for DST, CSB and ILAW, M-43-00, Tank Farm Upgrades; M-48-00 (Proposed) Tank Integrity; M-47-00, Waste Feed Delivery; M-

LDR REPORT TREATABILITY GROUP DATA SHEET

46-00, Tank Space Evaluation .

4.6 Proposed new Tri-Party Agreement treatment milestones:

Negotiations as outlined in the TPA, to include those in the M-62, series and other modifications necessary to maintain compliance with agreement requirements.

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☑ Yes ☐ No ☐ Unknown

If yes, describe: The treatment method, high-level vitrification was chosen on the basis of the Final Environmental Impact Statement for the Tank Waste Remediation System, DOE/EIS-0189 and the subsequent ROD, as a matter of necessity for compliance with the regulations for this waste. Waste minimization will be considered during the design and development of the vitrification plant in accordance with Federal and State Laws and Regulations, and DOE Orders.

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

None at this time

4.9 Key assumptions:

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

In accordance with current plans, the vitrified low-activity waste fraction will be disposed of onsite in a retrievable form. The vitrified HLW fraction will be stored on site until the Geologic Repository Program is available to receive wastes for disposal.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 222-S/219-S Waste Handling Facility (WHF) **Waste stream** Bulk Aqueous Liquids

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

None

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Aqueous liquid waste is generated from Analytical Procedures, unused or expired standard and reagents and unused Tank Farm's sample.

1.3.2 History of how and where the waste was/is generated:

This waste stream is generated from analytical procedure operations, unused sample, unused or expired standard and reagents. The facility will generate this waste through the 222-S complex (Analytical Procedures, Hot Cell, 219-S WHF operations).

1.3.3 Source of the hazardous constituents

Hanford Generating Facilities (e.g. LLBG, PFP, Tank Farms, K-Basins, ETF, ERDF, Etc.). Analytical procedures standards and reagents.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Waste Stream Fact Sheets (WSFS), Container Disposal Request (CDR), Inventory sheets, MSDS and Request for Sample Analysis.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Per the Hanford Facility Dangerous Waste Permit Application, 222-S Laboratory Complex (DOE/RL-91-27 Revision 1)

2.1.2 Timeframe when waste was placed into storage:

Generated since last tank transfer in 1999 - 12/31/2000

2.2 Inventory locations:

Building/room number	Number of containers/tanks
219S WHF	3

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 20

Date of inventory values: 12/31/2000

Comments on waste inventory: The volume is rounded to the nearest cubic meter. The waste volume was based on actual tank readings and placed in the Hanford Annual Dangerous Waste Report.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	37.900		
2002	37.900		
2003	37.900		
2004	37.900		
2005	37.900		
Totals	189.500		

2.7 DOE Storage Compliance Assessment information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: May 2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

None

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☑ Yes ☐ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
Prior to each transfer from the 219S, WHF to tank farms, the unit is sampled and analyzed for DST acceptance requirements.

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/2000

If yes, provide document number or other identification: "Operating and analytical procedures at 222S Laboratoy", File: /p2oahtml/paperlesslab.htm, Web address: //apsql05.rl.gov/p2oahtml/paperlesslab.htm

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Currently, the Laboratory optimize the use of lab ware for the work performed. Proper planning prior to waste generation through AJHA pre-job, and consistent review of routine operations minimizing where possible. Also, the Laboratory constantly seeks innovative opportunities to reduce waste by being aware of current waste minimizing technology.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 7.3 m3

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

DOE/RL-2000-79- "Pollution Prevention Accomplishments" document reported waste reductions for CY 2000. The waste reductoin volume reported above in Section 3.3.1 is a total waste minimization volume for similar waste streams across the 222-S Laboratory; this waste stream may be a portion of what was reported. 222-S has no waste minimization goals for this waste stream; therefore, no projected future waste volume reductions are reported above in Section 3.3.2. However, the analytical process generating this stream is continuously evaluated for waste minimization opportunities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 242-A/242-A Evaporator Slurry **Waste stream** Slurry Waste

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

DST waste profiles are prepared on a case-by-case basis.

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Wastes from operations of 242-A and treatement of DST waste in 242-A Evaporator.

1.3.2 History of how and where the waste was/is generated:

Waste generated during campaigns begins with waste staging and characterization activities in the tank farms.

1.3.3 Source of the hazardous constituents

DST system

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data is used to characterize feed to the 242-A Evaporator before it is treated. The RCRA Waste Analysis Plans for 242-A and LERF/ETF govern characterization requirements prior to campaigns.

1.3.5 Additional notes:

Slurry waste is sent to 241-AW-106 during campaigns. Evaporator campaigns are generally conducted about once a year, depending on the specific needs and schedule of tank farms.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☑ DST ☐ SST

☑ Other (explain): In-process waste may be present in the 242-A tank system during campaigns.

2.1.1 How was the waste managed prior to storage?

Prior to treatment at 242-A, the waste is stored in 241-AW-102.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed into storage:

During the last evaporator campaign.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
242-A/TK E-A-1	1

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0

Date of inventory values: 12/31/2000

Comments on waste inventory: Slurry waste will only be in the system during evaporator campaigns.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	1,893.000		
2002	1,893.000		
2003	3,785.000		
2004	0.000		
2005	3,785.000		
Totals	11,356.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment: A&E-00-ASS-073

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

NA

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Operation of the 242-A Evaporator is a waste reduction activity.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2001	0.000
2002	0.000
2003	0.000
2004	0.000
2005	0.000
Totals	0.000

3.3.3 Bases and assumptions used in above estimates:

Evaporator campaing schedule based on tank farms' forecast.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST-AN **Waste stream** 241-AN

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

NA

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

AN Farm contains mostly concentrated waste such as, complexant concentrate waste, Double-Shell slurry, and Double-Shell slurry feed. One tank contains dilute non-complexed waste. This is mixed waste which is liquid, layered over saltcake.

1.3.2 History of how and where the waste was/is generated:

The majority of these wastes are from past chemical separation processes (legacy waste). The major contributors to the wastes stored here are PUREX, B Plant, the Plutonium Finishing Plant, and saltwell liquids from the SST system. Smaller amounts of other miscellaneous wastes such as laboratory wastes and wastes from the clean out of facilities in the 100, 200, 300, and 400 areas are stored in the DST system. Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Wastes have been stored in the AN Farm since 1981.

1.3.3 Source of the hazardous constituents

Waste is from facility operations and maintenance; and laboratories, including analytical laboratories, as well as, R&D work. The waste could also contain some remediation and D&D waste.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process Knowledge, Tank Characterization Reports, and analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☑ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Wastes are managed at the specific operating facility or in the SST system.

2.1.2 Timeframe when waste was placed into storage:

From 1981 to the present

2.2 Inventory locations:

Building/room number	Number of containers/tanks
241-AN	7 Tanks
	Ancillary Equip.

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 21000

Date of inventory values: 12/31/2000

Comments on waste inventory: The volume is rounded to the nearest 1,000. Tank volumes are determined by waste level measurements, which are then converted to volumes. Actual tank volume measurements at any given time may differ from the reported values due to factors such as instrumentation error, uneven surfaces, and calculation rounding errors.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☑ Yes ☐ No

If yes, what is the total estimated storage capacity? 30,000 Cubic Meters

When is this capacity expected to be reached? 2010

Bases and assumptions used: DSTs are a system of tanks and as such, the whole system could reach capacity by 2010. This date is dependent on the 242-A Evaporator operating at least yearly, and the schedule/order of Single-Shell Tank Retrieval. The estimated storage capacity listed above is for the 241-AN farm only.

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: Planned for 12/2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-43-00, Tank Farms Upgrades; M-48-00, (Proposed) Tank Integrity; M-47-00, Waste Feed Deliver; M-90-00, New Facilities (CSB, ILAW)

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document, 8/2000 (WIRD document) Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

2.12 Other key assumptions related to storage, inventory, and generation information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Note: Due to an artifact of the database structure, the waste generation summary for DSTs is located in the 241-AP Location-Specific Data Sheet. DST waste is forecasted for the DST system, as a whole, rather than by specific farm, due to the movement of waste between farms to accommodate 242-A Evaporator operations, tank volumes, and waste feed delivery.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P2OA ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of the waste sent to the DST system is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

For waste volume reductions from the 242-A Evaporator see the 241-AW Farm Location Specific data sheet.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST-AP **Waste stream** 241-AP

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

NA

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

AP Farm contains concentrated wastes such as, concentrated phosphate waste, Double-Shell slurry feed, concentrated complexant, and wastes such as, dilute complexed wastes, and dilute non-complexed wastes. These tanks contain mixed wastes which are liquid. One tank contains some saltcake solids.

1.3.2 History of how and where the waste was/is generated:

The majority of these wastes are from past chemical separation processes (legacy wastes). The major contributors to the wastes stored here are PUREX, B Plant, the Plutonium Finishing Plant and saltwell liquids from the SST system. Smaller amounts of other miscellaneous wastes such as laboratory wastes and wastes from the clean out of facilities in the 100, 200, 300, 400 and 600 areas are stored in the DST system. Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Wastes have been stored in the AP Farm since 1986.

1.3.3 Source of the hazardous constituents

Waste is from facility operations and maintenance, and laboratories, including analytical laboratories, as well as, R&D work. The waste could also contain some remediation and D&D wastes.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process Knowledge, Tank Characterization Reports, and analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☑ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Waste was managed at the specific operating facility or in the SST system.

2.1.2 Timeframe when waste was placed into storage:

From 1986 to the present.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
241-AP	8 Tanks
	Diversion Boxes
	Valve Pits
	Ancillary Equip

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 24000

Date of inventory values: 12/31/2000

Comments on waste inventory: The volume is rounded to the nearest 1,000. Tank volumes are determined by waste level measurements, which are then converted to volumes. Actual tank volume measurements at any given time may differ from the reported values due to factors such as instrumentation errors, uneven surfaces, and calculation rounding errors.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☑ Yes ☐ No

If yes, what is the total estimated storage capacity? 35,000 cubic meters

When is this capacity expected to be reached? 2010

Bases and assumptions used: DSTs are a system of tanks and, as such, the whole system could reach capacity by 2010. This date is dependent on the 242-A Evaporator operating at least yearly, and the schedule/order of Single-Shell Tank retrieval. The estimated storage capacity listed above is for the 241-AP farm only.

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	11,631.000		
2002	4,190.000		
2003	1,032.000		
2004	1,272.000		
2005	6,216.000		
Totals	24,341.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: Planned for 12/2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-43-00, Tank Farms Upgrades; M-48-00, (Proposed) Tank Integrity; M-47-00, Waste Feed Delivery; M-90-00, New Facilities (CSB, ILAW)

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document, 8/2000 (WIRD document). Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.12 Other key assumptions related to storage, inventory, and generation information:

Note: Due to an artifact of the database structure, the waste generation summary located in section 2.6 is for all of DSTs, not just 241-AP farms. The waste is forecasted for the DST system, as a whole, rather than by specific farm due to the movement of waste between farms to accommodate 242-A Evaporator operations, tank volumes, and waste feed delivery.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P20A ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of the waste sent to the DST system is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001			
2002			
2003			
2004			
2005			
Totals			

3.3.3 Bases and assumptions used in above estimates:

For waste volume reductions from the 242-A Evaporator see the 241-AW Farm Location Specific data sheet.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST-AR **Waste stream** 204-AR

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Mixed waste from facilities in the 100, 200, 300, 400, and 600 areas are transferred through this facility. The waste can be discarded chemical wastes, facility clean out wastes, and other wastes.

1.3.2 History of how and where the waste was/is generated:

Currently there are no stored wastes at the 204-AR Facility.

1.3.3 Source of the hazardous constituents

Wastes are from facility operations and maintenance; and laboratories, including analytical laboratories, as well as, R&D work. This waste stream could also contain some remediation and D&D wastes.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☑ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

The waste is managed at specific operating facilities.

2.1.2 Timeframe when waste was placed into storage:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

From 1982 to the present.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
204-AR	1 tank
	Ancillary Equip.

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0

Date of inventory values: 12/31/2000

Comments on waste inventory: Waste is not usually stored in these tanks.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: Planned for 12/2003

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-43-00, Tank Farms Upgrades; M-48-00, (Proposed) Tank Integrity; M-47-00, Waste Feed

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Delivery; M-90-00, New Facilities (CSB, ILAW)

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document, 8/2000 (WIRD document). Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P20A ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of the waste sent to the DST system is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

For waste volume reductions from the 242-A Evaporator see the 241-AW Farm Location Specific data sheet.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST-AW **Waste stream** 241-AW

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

NA

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

AW Farm contains Double-Shell slurry feed waste, dilute non-complexed waste, and PUREX decladding waste. PUREX decladding waste is the solids portion of the PUREX plant neutralized cladding removal waste stream, received in Tank Farms as a slurry.

1.3.2 History of how and where the waste was/is generated:

The majority of these wastes are from past chemical separation processes (legacy waste). The major contributors to the wastes stored here are PUREX, B Plant, the Plutonium Finishing Plant, and saltwell liquids from the SST system. Smaller amounts of other miscellaneous wastes such as laboratory wastes and wastes from the clean out of facilities in the 100, 200, 300, 400, and 600 areas are stored in the DST system. Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Waste have been stored in the AW Farm since 1980.

1.3.3 Source of the hazardous constituents

Waste is from facility operations and maintenance; and laboratories, including analytical laboratories, as well as, R&D work. The waste could also contain some remediation and D&D wastes.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process Knowledge, Tank Characterization Reports, and analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)
☑ Tank ☑ DST ☐ SST
☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Wastes are managed at the specific operating facility or in the SST system.

2.1.2 Timeframe when waste was placed into storage:

From 1980 to the present

2.2 Inventory locations:

Building/room number	Number of containers/tanks
241-AW	6 Tanks
	Valve Pits
	Ancillary Equip

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 15000

Date of inventory values: 12/31/2000

Comments on waste inventory: The volume is rounded to the nearest 1,000. Tank volumes are determined by waste level measurements, which are then converted to volumes. Actual tank volume measurements at any given time may differ from the reported values due to factors such as instrumentation errors, uneven surfaces, and calculation rounding errors.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☑ Yes ☐ No

If yes, what is the total estimated storage capacity? 26,000 Cubic Meters

When is this capacity expected to be reached? 2010

Bases and assumptions used: DSTs are a system of tanks and as such, the whole system could reach capacity by 2010. This date is dependent on the 242-A Evaporator operating at least yearly, and the schedule/order of Single-Shell Tank retrieval. The estimated storage capacity listed above is for the 241-AW farm only.

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: Planned for 12/2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-43-00, Tank Farms Upgrades; M-48-00, (Proposed) Tank Integrity; M-47-00, Waste Feed Delivery; M-90-00, New Facilities (CSB, ILAW)

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization technical Sampling Basis and Waste Information Requirements Document, 8/200 (WIRD document). Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

2.12 Other key assumptions related to storage, inventory, and generation information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Note: Due to an artifact of the database structure, the waste generation summary for DSTs is located in the 241-AP Location-Specific Data Sheet. DST waste is forecasted for the DST system, as a whole, rather than by specific farm, due to the movement of waste between farms to accommodate 242-A Evaporator operations, tank volumes and waste feed delivery.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P20A ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of waste sent to the DST system is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 2500 m3

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	2,800.000		
2002	2,600.000		
2003	6,000.000		
2004	0.000		
2005	5,000.000		
Totals	16,400.000		

3.3.3 Bases and assumptions used in above estimates:

The waste volume reduction is based on 242-A Evaporator reduction for CY 2000. Projected waste volume reductions are based on Evaporator campaigns. This information is for the tank farms as a whole, however, the volume reductions actually take place in the 241-AW Farm.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST-AY **Waste stream** 241-AY

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

NA

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

AY Farm is an Aging Waste tank farm. The waste in this farm is dilute complexed waste, and dilute non-complexed waste. This is mixed waste which is liquid, layered over sludge.

1.3.2 History of how and where the waste was/is generated:

The majority of these wastes are from past chemical separation processes (legacy wastes). The major contributors to the wastes stored here are PUREX, and B Plant. Waste steams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Wastes have been stored in the AY Farm since 1971.

1.3.3 Source of the hazardous constituents

Waste is from facility operations and maintenance.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process Knowledge, Tank Characterization Reports, and Analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☑ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Wastes were managed at the specific operating facility or in the SST system.

2.1.2 Timeframe when waste was placed into storage:

From 1971 to the present

2.2 Inventory locations:

Building/room number	Number of containers/tanks
241-AY	2 Tanks
	Diversion Boxes
	Ancillary Equip

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 3000

Date of inventory values: 12/31/2000

Comments on waste inventory: The volume is rounded to the nearest 1,000. Tank volumes are determined by waste level measurements, which are then converted to volumes. Actual tank volume measurements at any given time may differ from the reported values due to factors such as instrumentation errors, uneven surfaces, and calculation rounding errors.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☑ Yes ☐ No

If yes, what is the total estimated storage capacity? 7,000 cubic meters

When is this capacity expected to be reached? 2010

Bases and assumptions used: DSTs are a system of tanks and as such the whole system could reach capacity by 2010. This date is dependent on the 242-A Evaporator operating at least yearly, and the schedule/order of Single-Shell Tank retrieval. The estimated storage capacity listed above is for the 241-AY farm only.

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2001	0.000
2002	0.000
2003	0.000
2004	0.000
2005	0.000
Totals	0.000

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: A-01-OPD-TANKFARM-011

☐ Assessment has been scheduled. Scheduled date: Planned for 12/2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-43-00, Tank Farms Upgrades; M-48-00, (Proposed) Tank Integrity; M-47-00, Waste Feed Delivery; M-90-00, New Facilities (CSB, ILAW)

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document, 8/2000 (WIRD document). Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

2.12 Other key assumptions related to storage, inventory, and generation information:

Note: Due to an artifact of the database structure, the waste generation summary for DSTs is located in the 241-AP Location-Specific Data Sheet. DSTs waste is forecasted for the DST system as a whole, rather than by specific farm, due to the movement of waste between farms to accommodate 242-A Evaporator operations, tank volumes and waste feed delivery.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P20A ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of the waste sent to the DST system is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

3.3.3 Bases and assumptions used in above estimates:

For waste volume reductions at the 242-A Evaporator see the 241-AW Farm Location Specific data sheet.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST-AZ **Waste stream** 241-AZ

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

NA

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

AZ Farm is an Aging Waste tank farm. The waste in this farm is aging waste. This is mixed waste which is liquid, layered over sludge.

1.3.2 History of how and where the waste was/is generated:

The majority of these wastes are from past chemical separation processes (legacy wastes). The major contributors to the wastes stored here are PUREX, and B plant. Waste steams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Wastes have been stored in the AZ Farm since 1976.

1.3.3 Source of the hazardous constituents

Waste is from facility operations and maintenance.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge, Tank Characterization Reports, and Analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☑ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Waste was managed at the specific operating facility or in the SST system

2.1.2 Timeframe when waste was placed into storage:

From 1976 to Present

2.2 Inventory locations:

Building/room number	Number of containers/tanks
241-AZ	2 Tanks
	Catch Tanks
	Diversion Boxes
	Ancillary Equip

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 7000

Date of inventory values: 12/31/2000

Comments on waste inventory: The volume is rounded to the nearest 1,000. Tank volumes are determined by waste level measurement, which are then converted to volumes. Actual tank volume measurements at any given time may differ from the reported values due to factors such as instrumentation errors, uneven surfaces, and calculation rounding errors.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☑ Yes ☐ No

If yes, what is the total estimated storage capacity? 7,000 Cubic meters

When is this capacity expected to be reached? 2010

Bases and assumptions used: DSTs are a system of tanks and as such the whole system could reach capacity by 2010. This date is dependent on the 242-A Evaporator operating at least yearly and the schedule/order of Single-Shell Tank retrieval. The estimated storage capacity listed above is for the 241-AZ farm only.

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: A-01-OPD-TANKFARM-011

☐ Assessment has been scheduled. Scheduled date: Planned for 12/2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-43-00, Tank Farms Upgrades; M-48-00, (Proposed) Tank Integrity; M-47-00, Waste Feed Delivery; M-90-00, New Facilities (CSB, ILAW)

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document, 8/2000 (WIRD document). Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

2.12 Other key assumptions related to storage, inventory, and generation information:

Note: Due to an artifact of the database structure the waste generation summary for DSTs is located in the 241-AP Location-Specific Data Sheet. DST waste is forecasted for the DST system as a whole, rather than by specific farm, due to the movement of waste between farms to accommodate 242-A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Evaporator operations, tank volumes and waste feed delivery.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P20A ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of the waste sent to the DST system is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

For waste volume reductions from the 242-A Evaporator see the 241-AW Farm Location Specific data sheet.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST, DCRT **Waste stream** Double-Contained Receiver Tanks

Treatability/aggregated group identifier: DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

This is waste which is being transferred into the Double-Shell Tank system. This is liquid mixed waste layered over solids.

1.3.2 History of how and where the waste was/is generated:

This is waste that is generated at operating facilities. This includes saltwell liquids and wastes from the laboratories.

1.3.3 Source of the hazardous constituents

Waste is from facility operations and maintenance, and laboratories, including analytical laboratories, as well as, R&D work. The waste could also contain remediation and D&D wastes.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process Knowledge and analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Waste was managed at the specific operating facility or in the SST system.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed into storage:

From 1975 to the present.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
244-A	1 Tank
244-S	1 Tank
244-TX	1 Tank
244-U	1 Tank
244-BX	1 Tank

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 143

Date of inventory values: 12/31/2000

Comments on waste inventory: The volume is rounded to the nearest cubic meter. Tank volumes are determined by waste level measurements, which are then converted to volumes. Actual tank volume measurements at any given time may differ from the reported values due to factors such as instrumentation errors, uneven surfaces, and calculation rounding errors.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: Planned for 12/2002

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-43-00, Tank Farm Upgrades; M-48-00, (Proposed) Tank Integrity; M-47-00, Waste Feed Delivery; M-90-00, New Facilities (CSB, ILAW)

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document, 8/2000 (WIRD document). Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P20A ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of the waste sent to the DST system is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001			
2002			
2003			
2004			
2005			
Totals			

3.3.3 Bases and assumptions used in above estimates:

For waste volume reductions from the 242-A Evaporator see the 241-AW Farm Location Specific data sheet.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST-SY **Waste stream** 241-SY

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

None

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

SY Farm contains complexant concentrate waste and dilute complexed waste. This is mixed waste which is liquid layered over sludge and saltcake.

1.3.2 History of how and where the waste was/is generated:

The majority of these wastes are from past chemical separation processes (legacy waste). The major contributors to the wastes stored here are the Plutonium Finishing Plant, the 222-S Laboratory, T Plant, U Plant and saltwell liquids from the SST system. Smaller amounts of other miscellaneous wastes such as laboratory wastes, are also stored here. Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Wastes have been stored in SY Farm since 1977.

1.3.3 Source of the hazardous constituents

Waste is from facility operations and maintenance, laboratories, including analytical laboratories, as well as, R&D work. The facility could also contain some remediation and D&D waste.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge, Tank Characterization Reports, and analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☑ DST ☐ SST

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Waste is managed at the specific operating facility or in the SST system.

2.1.2 Timeframe when waste was placed into storage:

From 1977 to the present.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
241-SY	3 Tanks Valve Pits Ancillary Equip

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 10000

Date of inventory values: 12/31/2000

Comments on waste inventory: The volume is rounded to the nearest 1,000. Tank volumes are determined by waste level measurements, which are then converted to volumes. Actual tank volume measurements at any given time may differ from the reported values due to factors such as instrumentation errors, uneven surfaces, and calculation rounding errors.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☑ Yes ☐ No

If yes, what is the total estimated storage capacity? 13,000 Cubic Meters

When is this capacity expected to be reached? 2010

Bases and assumptions used: DSTs are a system of tanks and, as such, the whole system could reach capacity by 2010. This date is dependent on the 242-A Evaporator operating at least yearly, and the schedule/order of Single-Shell Tank Retrieval. The estimated storage capacity listed above is for the 241-SY farm only.

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: A-01-OPD-TANKFARM-011

☐ Assessment has been scheduled. Scheduled date: Planned for 12/2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-43-00, Tank Farm Upgrades; M-48-00, (Proposed) Tank Integrity; M-47-00, Waste Feed Delivery; M-90-00, New Facilities (CSB, ILAW)

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document, 8/2000 (WIRD document). Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

2.12 Other key assumptions related to storage, inventory, and generation information:

Note: Due to an artifact of the database structure the waste generation summary for DSTs is located

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

in the 241-AP Location-Specific Data Sheet. DST waste is forecasted for the DST system, as a whole, rather than by specific farm, due to the movement of waste between farms to accommodate 242-A Evaporator operations, tank volumes and waste feed delivery.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P20A ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of the waste sent to the DST system is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

For waste volume reductions see the 241-AW farms location specific data sheet.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: DST/DST, Transfer Line **Waste stream** Cross-Site Transfer Line

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

None

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Waste which is stored in the DST system.

1.3.2 History of how and where the waste was/is generated:

The majority of these wastes are past chemical separation processes (legacy waste). The major contributors to the wastes stored here are the Plutonium Finishing Plant, T Plant, U Plant and saltwell liquids from the SST system. Small amount of other miscellaneous wastes such as laboratory wastes and wastes from the clean out of facilities. The first cross site transfer system was in use from 1955 until 1999. The Replacement Cross Site transfer system has been in use from 1999 to the present.

1.3.3 Source of the hazardous constituents

Waste is from facility operations and maintenance, and laboratories, including analytical laboratories, as well as, R&D work. The waste could also contain some remediation and D&D waste.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process Knowledge, Tank Characterization Reports, and analytical data from Waste stream Profile Sheets.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): Pipeline

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

Stored in the DST system.

2.1.2 Timeframe when waste was placed into storage:

2.2 Inventory locations:

Building/room number	Number of containers/tanks
241-ER-151	Diversion Box
241-ER-152	Diversion Box
241-ER-153	Diversion Box
241-EW-151	Vent Station
241-ER-311	Catch Tank
241-ER-311A	Catch Tank
6241-A	Diversion Box
6241-V	Diversion Box

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0

Date of inventory values: 12/31/2000

Comments on waste inventory: The only waste in this line, is residual waste left after transfers and flushes.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2001	0.000
2002	0.000
2003	0.000
2004	0.000
2005	0.000
Totals	0.000

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: A-01-OPD-TANKFARM-011

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
No further characterization for waste designation and/or LDR is necessary for storage. Further characterization to support waste treatment and other issues is planned. Waste is sampled and characterized per RPP-5832, Fiscal Year 2001 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document, 8/2000 (WIRD document). Waste from outside the tank farm system is characterized and documented before it is accepted into the DST system.

If yes, provide Tri-Party Agreement milestone number(s): M-44-00

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

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☑ Yes ☐ No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification: P02A ID Code 95-0007

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Some of the waste sent to the DST system is reduced at the generating location through pretreatment and recycling. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: HO-64-4275/Tank Trailer Waste **Waste stream** Tank Trailer HO-64-4275 Waste

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Hydrotesting water, maintenance wastes, laboratory wastes.

1.3.2 History of how and where the waste was/is generated:

The tank trailer was used to transport rain water, raw water, operations maintenance wastes and laboratory wastes and contains a heel.

1.3.3 Source of the hazardous constituents

Operations, maintenance and laboratory wastes.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data and process knowledge.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): Tank trailer

2.1.1 How was the waste managed prior to storage?

Managed at the facility which generated the waste.

2.1.2 Timeframe when waste was placed into storage:

1999 to the present

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2.2 Inventory locations:

Building/room number	Number of containers/tanks
HO-64-4275	1 tank trailer

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0.1

Date of inventory values: 12/31/2000

Comments on waste inventory: The tank trailer is pumped as empty as it can be pumped, however, it is not RCRA empty.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: Not scheduled at this time. This is a vehicle which is used to transport waste from one facility to another. It can not be pumped empty enough to be declared RCRA empty. It is used on a periodic basis, when a direct connection to the DST system is not available.

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

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None

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: PFP/241-Z, Mixed Waste Tanks **Waste stream** Mixed Waste Tanks

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

NONE

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

The liquid waste in the 241-Z dangerous waste tank system was and continues to be generated from PFP development and analytical laboratory testing and procedures, operation of the magnesium hydroxide precipitation process, and from miscellaneous facility support activities.

The waste received by the 241-Z dangerous waste tank system may contain arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, or carbon tetrachloride (designated as waste number D019), based on process knowledge, process modeling, and some process sampling. The wastes are chemically adjusted to a pH of greater than 12.5 to ensure compatibility of the waste and tank construction materials.

1.3.2 History of how and where the waste was/is generated:

These tanks are used to accumulate and treat the radioactive liquid wastes (RLW) generated in the PFP before transfer to the tank farms.

1.3.3 Source of the hazardous constituents

1) Hazardous chemicals are added to meet DST acceptance criteria

2) Hazardous constituents discharged from the plant during processing

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

process knowledge, process modeling, and some process sampling

1.3.5 Additional notes:

These liquid wastes are not treated to LDR standards prior to transfer to the DST System.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

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☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Laboratory wastes and facility support wastes are either accumulated in satellite accumulation or 90 day areas prior to discharge or introduced directly into the tank waste system upon generation of the waste. Wastes generated from the processing operations, (for example, Magnesium Hydroxide Precipitation Process), are introduced at the point of generation.

2.1.2 Timeframe when waste was placed into storage:

Waste is accumulated into a 12,000 kg batch and then transferred to the DST system.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
241-Z	4 Tanks

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 12

Date of inventory values: 12/31/2000

Comments on waste inventory: Rounded to the nearest cubic meter.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used: NONE

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	36.000		
2002	36.000		
2003	12.000		
2004	24.000		
2005	24.000		

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Totals	132.000

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: A&E-00-ASS-074, 11/13-20/2000

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

NONE

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☑ Yes ☐ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
The waste is characterized in accordance with applicable acceptance criteria for transfer to the DST system.

If yes, provide Tri-Party Agreement milestone number(s): NA

2.12 Other key assumptions related to storage, inventory, and generation information:

NONE

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification: N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: By the end of the fiscal year

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

PFP has a waste minimization program. A hierarchical approach to environmental management is applied to all types of pollution and waste generating activities. Pollution prevention and waste minimization, through source reduction, is the preferred option, followed by environmentally safe recycling. Treatment to reduce the quantity, toxicity, and/or mobility will be considered only when prevention or recycling is not possible or practical. Environmentally safe disposal is the last option. Segregation is applicable in all of these activities.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0 m3

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

PFP is currently in a clean up and stabilization mode. Clean up and stabilization operations tend to increase production of waste. PFP has a waste minimization program and is currently undergoing a Site Strategic Pollution Prevention Opportunity Assessment, which will identify if there are further opportunities to reduce waste production or produce waste in a less hazardous form.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: PFP/234-5Z, MHPP Filtrate **Waste stream** MHPP Filtrate

Treatability/aggregated group identifier DST Waste

Treatability/aggregated group name: DST Waste

1.2 Applicable profile number(s) for this waste stream:

None

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Filtrate from the Magnesium Hydroxide Precipitation Process.

1.3.2 History of how and where the waste was/is generated:

Plutonium solutions have been stored at PFP. The magnesium hydroxide precipitation process produces a low Pu filtrate.

1.3.3 Source of the hazardous constituents

Original metals and corrosivity from feed solutions.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data, process knowledge

1.3.5 Additional notes:

None

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

As material for recovery via the magnesium hydroxide process

2.1.2 Timeframe when waste was placed into storage:

Becomes waste as it exits the Magnesium Hydroxide Precipitation Process. It is shipped out of

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

the plant within 90 days.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
234-5Z	438 containers

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0

Date of inventory values: 12/31/2000

Comments on waste inventory: Shipped out within 90 days. Not stored.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used: As this waste is produced, it is sent away from this location.

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☑ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	6.000		
2002	3.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	9.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: May, 2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

NONE

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

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☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain: N/A

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
N/A

If yes, provide Tri-Party Agreement milestone number(s): N/A

2.12 Other key assumptions related to storage, inventory, and generation information:

None

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification: N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: By the end of the fiscal year

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

PFP has a waste minimization program. A hierarchical approach to environmental management is applied to all types of pollution and waste generating activities. Pollution prevention and waste minimization, through source reduction, is the preferred option, followed by environmentally safe recycling. Treatment to reduce the quantity, toxicity, and/or mobility will be considered only when prevention or recycling is not possible or practical. Environmentally safe disposal is the last option. Segregation is applicable in all of these activities.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0 m3

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3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

PFP is currently in a clean up and stabilization mode. Clean up and stabilization operations tend to increase production of waste. PFP has a waste minimization program and is currently undergoing a Site Strategic Pollution Prevention Opportunity Assessment, which will identify if there are further opportunities to reduce waste production or produce waste in a less hazardous form.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: ERDF

Treatability group/aggregated stream name: ERDF

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

Remediation waste generated from excavation of waste sites, D&D, and monitoring and treatment of groundwater. Waste stream is generated pursuant to Records of Decision or other CERCLA Authorization.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 37.000

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	3,929.650		
2002	3,732.550		
2003	3,569.550		
2004	3,545.110		
2005	3,514.950		
Totals	18,291.810		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☑ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

Waste profiles are prepared for each waste stream disposed at ERDF. All waste disposed at ERDF meets with ERDF Waste Acceptance Criteria.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
S5121	CONCRETE DEBRIS	30
S4200	SOIL/DEBRIS	70

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3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☑ Medium ☐ High

3.2.3 Comments on matrix characteristics and/or confidence level:

ERDF accepts a large volume of CERCLA remediation waste including soil, concrete rubble, miscellaneous solid waste

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D009	Mercury				amalgamation
F001	Carbon Tetrachloride		**		
F002	Methylene Chloride		**		
F003	Methanol		**		
F004	Cresol-mixed Isomers		**		
F005	Methyl Ethyl Ketone		**		
W001			**		
WP01			**		
WP02			**		
WT02			**		

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

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☑ List: D009, F001, F002, F003, F004, F005, W001, WP01, WP02, WT02

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☐ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☑ Yes ☐ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☑ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☑ <50 ☑ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

All of the waste disposed at ERDF is assessed against the ERDF Waste Acceptance Criteria, BHI-00139, Rev. 3. Section 4.3.4 of the acceptance criteria addresses disposal of PCB contaminated waste.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details:

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☑ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☐ Treating or plan to treat on site ☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

N/A

4.4 Treatment schedule information:

No treatment is required

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

M-16-00

4.6 Proposed new Tri-Party Agreement treatment milestones:

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N/A

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☑ No ☐ Unknown

If yes, describe: N/A, See section 4.2

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

4.9 Key assumptions:

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Waste is disposed at ERDF

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 200 LEF/200 ETF, ERDF Debris **Waste stream** CERCLA Debris

Treatability/aggregated group identifier ERDF

Treatability/aggregated group name: ERDF

1.2 Applicable profile number(s) for this waste stream:

WP#: 200UP1ETF and WP#: ETFMISC001

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Process contacted debris generated from maintenance and clean-up activities.

1.3.2 History of how and where the waste was/is generated:

Generated during operation and maintenance activities at the 200 Area Effluent Treatment Facility (ETF) and associated facilities.

1.3.3 Source of the hazardous constituents

Waste from CERCLA activities

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data and process knowledge.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☑ Container (pad) ☑ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Waste was in the process of being generated.

2.1.2 Timeframe when waste was placed into storage:

08/2000 - 10/2000 for current inventory. This type waste has been generated at this location

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

since 1997.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
2025E	2 boxes
2025E	19 Drums

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 13

Date of inventory values: 12/31/2000

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☐ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	28.350		
2002	28.350		
2003	28.350		
2004	28.350		
2005	28.350		
Totals	141.750		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: 09/2000, A&E-00-ASS-070

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 01/2001

If yes, provide document number or other identification: None

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Facility operating procedures provide instructions on packaging and segregation of waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2001	0.000	
2002	0.000	
2003	0.000	
2004	0.000	
2005	0.000	
Totals	0.000	

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 200 LEF/200 ETF, ERDF Powder **Waste stream** CERCLA Powder

Treatability/aggregated group identifier ERDF

Treatability/aggregated group name: ERDF

1.2 Applicable profile number(s) for this waste stream:

WP#: 200UP1ETF and WP#: ETFMISC001

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Secondary waste generated during treatment of CERCLA wastewaters at ETF.

1.3.2 History of how and where the waste was/is generated:

Secondary waste is generated from the treatment of wastewater through the 200 Area Effluent Treatment Facility (ETF). The contaminants are destroyed or removed from the wastewater and dried as powder. Sludge waste maybe generated during facility maintenance activities.

1.3.3 Source of the hazardous constituents

Wastewaters managed under the CERCLA program.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data and generator information.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☑ Container (pad) ☑ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

The waste was in the process of being generated

2.1.2 Timeframe when waste was placed into storage:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

10/2000 - 12/2000 for current inventory. This type waste has been generated at this location since 1997.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
ETF	115 drums

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 24

Date of inventory values: 12/31/2000

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC ☐ DST ☑ Other area(s) list: Destined for disposal in ERDF. ☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	66.300		
2002	96.200		
2003	96.200		
2004	71.760		
2005	41.600		
Totals	372.060		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: 09/2000, A&E-00-ASS-070

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 6/99

If yes, provide document number or other identification: HNF-4734

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

The ETF removes contaminants from the wastewater and dries them to powder. The wastewaters are segregated and processed to minimize the generation of secondary waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg

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2001	0.000	
2002	0.000	
2003	0.000	
2004	0.000	
2005	0.000	
Totals	0.000	

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: ERDF Direct Disposal/ERDF Direct Disposal **Waste stream** ERDF Direct Disposal

Treatability/aggregated group identifier ERDF

Treatability/aggregated group name: ERDF

1.2 Applicable profile number(s) for this waste stream:

Not Applicable

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Remediation waste generated from excavation of waste sites, D&D, and monitoring and treatment of groundwater. Waste stream is generated pursuant to Records of Decision or other CERCLA authorization. This stream is comprised of waste from the 100, 200, 300, and 600 Areas of the Hanford Site, although the majority of the waste is from the 100 Area.

1.3.2 History of how and where the waste was/is generated:

Waste is generated from excavation of waste sites, D&D of facilities, and monitoring and treatment of groundwater.

1.3.3 Source of the hazardous constituents

The majority of contaminated material resulted from past Hanford operations in which reactor cooling liquid was discharged to cribs, ponds, ditches, and trenches

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and analytical data

1.3.5 Additional notes:

ERDF is a disposal facility.

This waste stream represents mixed wastes that do not require treatment in order to meet Land Disposal Restrictions. Historical data for the five years of ERDF operations show approximately 1.8% of the waste disposed at ERDF being mixed waste, not requiring treatment. Waste requiring treatment prior to disposal are reported separately.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): Direct Disposal at ERDF

2.1.1 How was the waste managed prior to storage?

Soil and debris is excavated, placed in roll off boxes, and transported to ERDF for disposal.

2.1.2 Timeframe when waste was placed into storage:

N/A

2.2 Inventory locations:

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0

Date of inventory values: 12/31/2000

Comments on waste inventory: Waste is not stored prior to disposal

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☐ DST ☑ Other area(s) list: Waste is disposed of at ERDF

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	3,835.000		
2002	3,608.000		
2003	3,445.000		
2004	3,445.000		
2005	3,445.000		
Totals	17,778.000		

2.7 DOE Storage Compliance Assessment information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: Not scheduled at this time.

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification: N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: Assessments are made on specific streams

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: ERDF -- Treatment

Treatability group/aggregated stream name: ERDF -- Treatment

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

This waste stream reflects mixed waste, contaminated with lead or chromium, that requires treatment prior to disposal at ERDF. The waste is stored at the operable unit, and is shipped to ERDF where the waste is treated and disposed.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 50.000

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	442.000		
2002	418.000		
2003	399.000		
2004	399.000		
2005	399.000		
Totals	2,057.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☑ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

ERDF accepts waste from CERCLA clean up actions performed across the Hanford Site. The waste disposed at ERDF meets the ERDF Waste Acceptance Criteria, BHI-00139, Rev. 3.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
S3115	ION-EXCHANGE MEDIA	2
S4100	SOIL	95

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

Waste is stabilized in place at time of disposal

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D007	Chromium		**		macroencapsulation
D008	Lead		**		macroencapsulation

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☐ List:

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☑ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☑ Yes ☐ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☑ Yes ☐ No ☐ Unknown

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4.2 Indicate the PCB concentration range (ppm)

☑ <50 ☑ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☑ Medium ☐ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

Spent resins have been sampled and are of high confidence. Lead contaminated remediation waste could contain PCBs. Section 4.3.4 of the ERDF acceptance criteria addresses disposal of PCB contaminated waste.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☑ Yes ☐ No

If yes, provide details: Waste is stabilized when disposed at ERDF

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☑ Treating or plan to treat on site ☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Stabilization capacity is available for treatment within the ERDF on an as needed basis.

4.4 Treatment schedule information:

ERDF acceptance of waste requiring treatment is coordinated so treatment and disposal can occur within a short time of receipt of the waste

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

M-16

4.6 Proposed new Tri-Party Agreement treatment milestones:

None

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☑ No ☐ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

4.9 Key assumptions:

LDR REPORT TREATABILITY GROUP DATA SHEET

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Waste stream is disposed at ERDF

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: CERCLA Lead/CERCLA Lead **Waste stream** CERCLA Lead

Treatability/aggregated group identifier ERDF -- Treatmen

Treatability/aggregated group name: ERDF -- Treatmen

1.2 Applicable profile number(s) for this waste stream:

Not applicable

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Lead and lead contaminated remediation waste generated in the 100 and 300 Areas of the Hanford Site from excavation of waste sites and Interim Safe Storage of the Hanford Reactors. Waste stream is generated pursuant to Records of Decision, or other CERCLA authorization documents, mandating remediation of the waste site and disposed pursuant to the ERDF Record of Decision

1.3.2 History of how and where the waste was/is generated:

The majority of waste is contaminated soil resulting from past Hanford operations in which reactor coolant liquids were discharged to cribs, ponds, ditches, and trenches. Lead was used in the reactors for shielding.

1.3.3 Source of the hazardous constituents

Generated as a result of past Hanford Operations

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and analytical data

1.3.5 Additional notes:

Historically, this waste stream has represented 0.2% of the mixed waste disposed at ERDF. The volume identified on this waste stream data sheet is based on historical experience of waste disposed at ERDF.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): ERDF coordinates receipt of lead contaminated materials to perform treatment in

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

batches

2.1.1 How was the waste managed prior to storage?

Soil and debris is excavated or demolished, placed in containers, and transported to ERDF for treatment and disposal.

2.1.2 Timeframe when waste was placed into storage:

N/A

2.2 Inventory locations:

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters):	0
Date of inventory values:	12/31/2000
Comments on waste inventory:	Waste is not stored

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC ☐ DST ☑ Other area(s) list: Waste is transferred to ERDF for treatment prior to disposal ☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	428.000		
2002	404.000		
2003	385.000		
2004	385.000		
2005	385.000		
Totals	1,987.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: No assessment is scheduled at this time.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

Mixed waste forecasts are based on an assumption that 0.2% of the mixed waste disposed at ERDF will require treatment. ERDF forecasts through 2003 can be found in the Richland ER Project FY 2001 - 2003 Detailed Work Plan. Volumes for 2004 and 2005 were assumed to be consistent with the volume forecasted for 2003.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 100-HR-3 Spent Resin/CERCLA Resin **Waste stream** CERCLA Resin

Treatability/aggregated group identifier ERDF -- Treatmen

Treatability/aggregated group name: ERDF -- Treatmen

1.2 Applicable profile number(s) for this waste stream:

Not applicable

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Spent resins

1.3.2 History of how and where the waste was/is generated:

Contaminated resin generated during operations of the 100-HR-3 and 100-KR-4 groundwater pump and treat.

1.3.3 Source of the hazardous constituents

Discharge of process liquids to the soil (via cribs, ponds, ditches, and trenches)

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data

1.3.5 Additional notes:

The resin will be treated at and disposed of into the ERDF.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): Waste is placed in drums or burial boxes awaiting treatment prior to disposal. Stabilization for chromium will be conducted after a contained-in determination has been received from Ecology to remove listed waste codes.

2.1.1 How was the waste managed prior to storage?

Waste is managed in the Area of Contamination

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2.1.2 Timeframe when waste was placed into storage:

Spent resin started being generated when the remedial action began. Waste is generated and located in the CERCLA Area of Contamination.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
OPERABLE UNIT	14 boxes

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 50

Date of inventory values: 12/31/2000

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☐ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	14.000		
2002	14.000		
2003	14.000		
2004	14.000		
2005	14.000		
Totals	70.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: Not scheduled at this time.

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

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N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: September 2000

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

The duration that the resin will remain in the pump and treat system has been reduced (starting 9/00). As a result, the resins in general will not be mixed waste and can then be regenerated instead of treated/disposed.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

The forecasted volume of waste generated by this activity reflects the waste minimization effort undertaken by the project. The forecasted volume assumes that one resin change out per year will be disposed as mixed waste.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: K Basin Sludge

Treatability group/aggregated stream name: K Basin Sludge

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

The sludge was generated over several years in association with the storage of fuel in the 105-KE and 105KW basin pools. The sludge has yet to be designated as a waste. The term "sludge" is used here in its commonly understood meaning and is not based on the definition in WAC-173-303-040.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0.000

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	15.000		
2004	15.000		
2005	20.000		
Totals	50.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☑ Transuranic ☐ Low-level

3.1.2 Handling (as currently packaged/stored) ☐ Contact-handled ☑ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

The sludge is characterized as a PCB Remediation Waste. The sludge is not a mixed waste.

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
S3125	REPROCESSING SLUDGES	

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

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☐ Low ☑ Medium ☐ High

3.2.3 Comments on matrix characteristics and/or confidence level:

NA

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
N/A					

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.
UHC is polychlorinated bipheynals (i.e. PCB's)

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☐ List:

☑ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☐ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☑ Yes ☐ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☑ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☑ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

LDR REPORT TREATABILITY GROUP DATA SHEET

☐ Low ☑ Medium ☐ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

NA

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

If yes, provide details:

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☑ Treating or plan to treat on site ☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Waste are planned to be treated as a part of the proposed M-91 capability as needed to meet the applicable waste acceptance criteria at WIPP. The extent of treatment will vary, and may include decontamination, solidification, and repackaging. The treatment capacity of the M-91capability has yet to be determined.

4.4 Treatment schedule information:

The programmatic treatment schedule for mixed and non-mixed TRU waste is from 1999 to 2032. The programmatic schedule for treatment of these waste calls for start of operation in 2013. The schedule is subject to change as it depends on the ability of DOE to accept mixed TRU waste at WIPP and available funding for treatment.

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

M-91-01, M-91-18, M-91-19, M-91-20, M-91-21, M-91-21-T02, M-91-22

4.6 Proposed new Tri-Party Agreement treatment milestones:

NA

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☐ No ☑ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

Waste minimization activities are not applicable because waste generation is the result of relocating existing contaminated media to a safer location.

4.9 Key assumptions: NA

LDR REPORT TREATABILITY GROUP DATA SHEET

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

TRU waste is planned to be disposed of at the Waste Isolation Pilot Plant (WIPP), a deep geological repository.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: K Basin/K Basin **Waste stream** K Basin Sludge

Treatability/aggregated group identifier K Basin Sludge

Treatability/aggregated group name: K Basin Sludge

1.2 Applicable profile number(s) for this waste stream:

N/A

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Approximately 50 cubic meters of layered particulate material, which is generally called "sludge" is currently stored in two spent nuclear fuel (SNF) basins. The term "sludge" is used here in its commonly understood meaning, and is not based on the definition in WAC-173-303-040. Several different types of sludge exist in the basin, depending on canister type and pit location where the particular sludge is found. Each type of sludge is unique, non-homogeneous mixture possibly containing corroded fuel (i.e. uranium oxides, hydrates, hydride), cladding pieces, debris such as wind blown sand or insects, rack and canister corrosion products, ion exchange resin beads, polychlorinated biphenyls, and/or fission products. The sludge in the basins is commingled with SNF and is not considered a waste, however, when the sludge is separated from the SNF and removed from the basins, it will be generated as Remote-Handled Transuranic waste and will also be TSCA regulated. For more info see, HNF-2367 (Supplementary Information on K-Basin Sludges) and/or DOE/RL 98-66 (Focused Feasibility Study for the K Basins Interim Remedial Action).

1.3.2 History of how and where the waste was/is generated:

The basins were originally used to store spent nuclear fuel from the KE and KW Reactors until the early 1970's when these reactors were removed from service and the fuel removed from the basins. The basins subsequently have been used to store SNF from the Hanford N Reactor. Associated with this fuel is sludge which consists of various proportions of fuel, structural corrosion products, wind blown materials and miscellaneous constituents. See HNF-6495 (Sampling and Analysis Plan for K Basins Debris) and/or HNF-2367.

1.3.3 Source of the hazardous constituents

The source of the PCB's is unknown but is attributed to past 105KE Reactor Operations

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

See HNF-2367 and/or DOE/RL 98-66

1.3.5 Additional notes:

NA

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): The sludge is at the bottom of the two basin pools at 100KE and 100KW. The sludge is not containerized but covers the bottom of the basin pools.

2.1.1 How was the waste managed prior to storage?

The sludge will be generated as waste when the sludge is removed from the basins.

2.1.2 Timeframe when waste was placed into storage:

N/A

2.2 Inventory locations:

Building/room number	Number of containers/tanks
100KE BASIN	N/A
100KW BASIN	N/A

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0

Date of inventory values:

Comments on waste inventory: As per DOE/RL-98-66, the last time the sludge volume was estimated was in 1998.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used: No additional material will be managed in this location

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☐ DST ☑ Other area(s) list: Plans are for temporary storage at the T Plant complex.

☐ None

2.6 Estimated generation projection by calendar year:

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Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	15.000		
2004	15.000		
2005	20.000		
Totals	50.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: See DOE/RL-98-66

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

M-91-01

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain: N/A

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
N/A

If yes, provide Tri-Party Agreement milestone number(s):N/A

2.12 Other key assumptions related to storage, inventory, and generation information:

To avoid extra costs, existing or slightly modified basin equipment and fixtures, such as the Multi-Canister Overpack (MCO) cask and trasport system and fuel handling fixtures, will be used for sludge handling to the maximum extent possible.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification: N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Established Waste Minimization techniques will be utilized to include segregation and avoidance of commingling of waste streams.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: LERF/ETF Liquid Waste

Treatability group/aggregated stream name: LERF/ETF Liquid Waste

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

CERCLA and RCRA Wastewaters

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 40,789.300

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	80,660.040		
2002	80,660.040		
2003	84,220.040		
2004	77,290.040		
2005	83,010.040		
Totals	405,840.200		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☑ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

3.2 Matrix characteristics (physical content)

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
L1130	NEUTRAL WASTEWATERS	

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☐ Medium ☑ High

3.2.3 Comments on matrix characteristics and/or confidence level:

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☑ Wastewater ☐ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D008	Lead	lead	> 5.0 mg/L	knowledge/analysis	0.69 mg/L (1)
D009	Mercury	D009 wastewaters	>0.2 mg/L	knowledge/analysis	0.15 mg/L (1)
F001	1,1,1-trichloroethane, carbon tetrachloride	F001-F005	**	knowledge/analysis	multiple
F002	methylene chloride	F001-F005	***	knowledge/analysis	0.089 mg/L
F003	acetone, methyl isobutyl ketone	F001-F005	***	knowledge/analysis	multiple
F004	cresols	F001-F005	***	knowledge/analysis	0.11 mg/L
F005	methyl ethyl ketone	F001-F005	***	knowledge/analysis	0.28 mg/L
F039	F001-F005 solvent wastes	NA	***	knowledge/analysis	multiple

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

The ETF/LERF receives many different liquid waste from many different generators. The generator are required to thoroughly characterize the waste per the ETF/FERF waste analysis plan. Information on actual consistuent concentrations and ranges can be found in the regulatory file for each of the generator waste located at the ETF.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

LDR REPORT TREATABILITY GROUP DATA SHEET

☑ List: Some wastewaters meet treatment standard for F001-F005, F039 on receipt.

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☐ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☐ Yes ☑ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☐ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☐ <50 ☐ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☑ Yes ☐ No

If yes, provide details: The 200 Area Effluent Treatment Facility (ETF) is a final status RCRA TSD unit and treats RCRA and CERCLA aqueous wastewaters generated from various locations on the Hanford Site. The contaminants are destroyed or removed from the wastewaters and dried to a powder.

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☑ Treating or plan to treat on site ☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

The ETF has pH adjustment, ultraviolet/oxidation, filtration, reverse osmosis, degasification, and ion exchange unit operations to remove the contaminants from the wastewaters.

4.4 Treatment schedule information:

continuous

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

N/A

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4.6 Proposed new Tri-Party Agreement treatment milestones:

N/A

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☑ Yes ☐ No ☐ Unknown

If yes, describe: The ETF/LERF does not generate liquid waste. However, the wastewaters are segregated and processed to minimize the generation of waste requiring further treatment.

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

N/A

4.9 Key assumptions: Assume PCB's are less than 0.5 ug/L in feed streams to the LERF/ETF during the forecast period.

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Secondary waste (dry powder) that is generated from the treatment of wastewaters from the ETF is disposed at the Mixed Waste Burial Trenches or ERDF depending on whether the wastewater is designated as RCRA or CERCLA. The delisted wastewater is disposed to a State Approved Land Disposal Site under WAC 173-216. Delisting modification for LERF/ETF is needed to manage other waste streams that require treatment at the ETF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 200 LEF/200 ETF, CERCLA Liquid **Waste stream** CERCLA Wastewater

Treatability/aggregated group identifier LERF/ETF Liquid Waste

Treatability/aggregated group name: LERF/ETF Liquid Waste

1.2 Applicable profile number(s) for this waste stream:

CERCLA wastewater stored at LERF/ETF.

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Wastewater generated during deactivation, decommissioning, and remediation activities on the Hanford Site, aggregated at LERF/ETF for centralized treatment.

1.3.2 History of how and where the waste was/is generated:

Wastewaters generated under the CERCLA program on the Hanford Site. Refer to specific generator information.

1.3.3 Source of the hazardous constituents

Refer to specific generator information.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and analytical information--per the RCRA Waste Analysis Plan for LERF/ETF.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☐ DST ☐ SST

☑ Other (explain): surface impoundments (LERF Basins 43 & 44)

2.1.1 How was the waste managed prior to storage?

At the generator site.

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2.1.2 Timeframe when waste was placed into storage:

Wastewater may be received continuously (e.g., UP-1 pump-and-treat) or it may be received on a batch basis from generators as needed by the specific cleanup activity.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
LERF BASINS	2
ETF TANKS	18
ETF CONTAINERS	0

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 40731

Date of inventory values: 12/31/2000

Comments on waste inventory: Waste is stored, treated, and disposed at LERF/ETF.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☐ DST ☑ Other area(s) list: Wastewater will be treated through ETF.

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: A&E-00-ASS-070 & 07

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: NA

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Generators will address waste minimization for their particular waste streams. LERF/ETF segregates and treats wastewaters to minimize generation of secondary waste which will require further treatment.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

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Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

Purgewater is not sent to LERF/ETF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 200 LEF/200 ETF, RCRA Liquid **Waste stream** RCRA Wastewater

Treatability/aggregated group identifier LERF/ETF Liquid Waste

Treatability/aggregated group name: LERF/ETF Liquid Waste

1.2 Applicable profile number(s) for this waste stream:

RCRA Wastewater stored at LERF/ETF.

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Wastewaters generated during deactivation, decommissioning, and operation of the Hanford Site, aggregated at LERF/ETF for centralized treatment.

1.3.2 History of how and where the waste was/is generated:

Wastewaters generated under the RCRA program on the Hanford Site. Refer to specific generator information.

1.3.3 Source of the hazardous constituents

Refer to specific generator information.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and analytical information--per the RCRA Waste Analysis Plan for LERF/ETF.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☑ Container (pad) ☑ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☐ DST ☐ SST

☑ Other (explain): Surface impoundment (LERF Basin 42)

2.1.1 How was the waste managed prior to storage?

At the generator site.

2.1.2 Timeframe when waste was placed into storage:

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Wastewater may be received at any time, depending on generator needs.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
LERF-BASIN 42	1
ETF-TANKS	18
ETF-CONTAINERS	20

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 5

Date of inventory values: 12/31/2000

Comments on waste inventory: Surface impoundment and tanks did not contain RCRA waste on inventory date.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☐ DST ☑ Other area(s) list: Wastewater will be treated through ETF.

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: A&E-00-ASS-070 & 7

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

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2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: NA

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Genertors will address waste minimization for their particular waste streams.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg

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2001	0.000	
2002	0.000	
2003	0.000	
2004	0.000	
2005	0.000	
Totals	0.000	

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 200-UP-1/200-UP-1 **Waste stream** 200-UP-1

Treatability/aggregated group identifier LERF/ETF Liquid Waste

Treatability/aggregated group name: LERF/ETF Liquid Waste

1.2 Applicable profile number(s) for this waste stream:

Profile transmitted to ETF facility via BHI letter dated 1/31/01; CCN #086036

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Groundwater contaminated with uranium, technetium, carbon tetrachloride, and nitrates from the UO3 Plant operations.

1.3.2 History of how and where the waste was/is generated:

It is estimated that 4,000 kg of process waste from the UO3 Plant, consisting primarily of dilute nitric acid containing uranium, technetium-99, and small quantities of fission products, was discharged to the soil via the 261-U-1 and 216-U-2 Cribs. The mobile uranium was transported to the groundwater when large volumes of cooling water were discharged to the adjacent 216-U-16 Crib in 1984. In 1997, the 200-UP-1 Interim Record of Decision required the contaminated groundwater be extracted and transferred to ETF to for treatment.

1.3.3 Source of the hazardous constituents

Resulted from liquid discharges to the soil from past Hanford operations.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data and process knowledge

1.3.5 Additional notes:

Water is being treated at ETF pursuant to the 200-UP-1 Record of Decision

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): Transferred to LERF Basin via underground pipeline

2.1.1 How was the waste managed prior to storage?

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Groundwater is extracted and transferred to the LERF Basin

2.1.2 Timeframe when waste was placed into storage:

N/A

2.2 Inventory locations:

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0

Date of inventory values: 12/31/00

Comments on waste inventory: Water is transferred to LERF Basin for treatment

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☐ DST ☑ Other area(s) list: Groundwater is stored at LERF, treated at ETF, and discharged in accordance with the operating permit

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	77,270.000		
2002	77,270.000		
2003	77,270.000		
2004	77,270.000		
2005	77,270.000		
Totals	386,350.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: Assessment has not been scheduled.

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A -- Groundwater remediation is being performed under the 200-UP-1 Interim Record of Decision

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

Forecast assumes no changes to the 200-UP-1 Record of Decision

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: Assessment not warranted. See 3.2 below.

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

None. Generation of this waste stream is required to remove contaminated groundwater from the aquifer as mandated under the 200-UP-1 Interim Record of Decision

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass):

3.3.2 Projected future waste volume reductions:

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 242-A/242-A Evaporator **Waste stream** Evaporator Process Condensate

Treatability/aggregated group identifier LERF/ETF Liquid Waste

Treatability/aggregated group name: LERF/ETF Liquid Waste

1.2 Applicable profile number(s) for this waste stream:

242-A Evaporator Process Condensate stored in condensate tank C-100 between campaigns.

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Process condensate from treatment of DST waste in 242-A Evaporator.

1.3.2 History of how and where the waste was/is generated:

Waste is generated during evaporator campaigns that begin with waste staging and characterization activities in the tank farms.

1.3.3 Source of the hazardous constituents

DST system

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data is used to characterize feed to the 242-A Evaporator before it is treated. The RCRA waste analysis plans for 242-A and LERF/ETF govern characterization requirements.

1.3.5 Additional notes:

Most process condensate is sent to LERF/ETF for storage and treatment. Some process condensate stored in condensate tank C-100 at 242-A between campaigns for use in priming the treatment system at the beginning of the next campaign (waste minimization).

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

Prior to treatment and storage at 242-A, the waste was stored in DST.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed into storage:

During the last 242-A Evaporator campaign.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
242-A/TK C-100	1

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 34

Date of inventory values: 12/31/2000

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☐ DST ☑ Other area(s) list: Adequate storage and treatment capacity is available through LERF/ETF.

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	3,370.000		
2002	3,370.000		
2003	6,930.000		
2004	0.000		
2005	5,720.000		
Totals	19,390.000		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: A&E-00-ASS-07

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

Evaporator campaigns are planned and conducted based on DST needs.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: Evaporator treatment process is waste reduction.

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

It is desirable to increase the size of this waste stream--provided it reflects an overall decrease in tank waste volume.

3.3 Waste minimization schedule

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.1 Reduction achieved during calendar year (volume or mass): 34 m3

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	34.000		
2002	34.000		
2003	68.000		
2004	0.000		
2005	34.000		
Totals	170.000		

3.3.3 Bases and assumptions used in above estimates:

Evaporator campaign schedule based on tank farms' forecast.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: T Plant Complex/2706-T RCRA Tank System **Waste stream** Storage-2706-T RCRA Tank System

Treatability/aggregated group identifier LERF/ETF Liquid Waste

Treatability/aggregated group name: LERF/ETF Liquid Waste

1.2 Applicable profile number(s) for this waste stream:

None

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Liquid waste generated as a result of decontamination and treatment activities.

1.3.2 History of how and where the waste was/is generated:

Waste resulting from decontamination and treatment activities in the 2706-T and 2706-TA Buildings and various other sources (e.g., potentially contaminated rainwater, etc.).

1.3.3 Source of the hazardous constituents

See Section 1.3.1 and 1.3.2

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical and process knowledge

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☑ Tank ☐ DST ☐ SST

☐ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

Generated as part of decontamination and treatment activities.

2.1.2 Timeframe when waste was placed into storage:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1999 to present

2.2 Inventory locations:

Building/room number	Number of containers/tanks
T PLANT COMPLEX	2

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 19.3

Date of inventory values: 12/31/2000

Comments on waste inventory: Inventory subject to fluctuation from decontamination and treatment activities and subsequent shipment to ETF or to another approved location.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used: N/A

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC

☐ DST ☑ Other area(s) list: ETF

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	19.000		
2002	19.000		
2003	19.000		
2004	19.000		
2005	19.000		
Totals	95.000		

2.7 DOE Storage Compliance Assessment information:

☑ Assessment has been completed. Reference to most recent assessment: Oct. 2000, A&E-00-ASS-07

☐ Assessment has been scheduled. Scheduled date: Assessment currently scheduled for July 200

☐ Other. Explain: N/A

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain: N/A

2.11 Is further characterization necessary?

☑ Yes ☐ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):
Additional characterization information will be required to support shipment to another TSD unit. NOTE: A statement of work exists between the T Plant Complex and the 222-S Laboratory for sampling requirements. This SOW provides direction to the 222-S for analysis and reporting requirements. This SOW addresses sampling requirements for the stored waste within the 2706-T Tanks as determined necessary.

If yes, provide Tri-Party Agreement milestone number(s): N/A

2.12 Other key assumptions related to storage, inventory, and generation information:

Efforts are underway to prepare the 2706-T and TA to begin liquid decontamination/treatment efforts. As more information becomes available on types, quantities of equipment/material to be decontaminated, waste forecasts will be developed. Acceptance criteria for the ETF is the preferred target; the DST System remains a back TSD unit for this waste.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted: See Section 3.3 for discussion on waste min.

If yes, provide document number or other identification: N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

It is extremely difficult to determine how much waste will be generated for this particular waste stream. Will fluctuate greatly depending upon how much equipment needs decontaminating, treatment activities, and other waste management operations.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0 m3

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

The T Plant Complex, where possible, will use non-regulated decontamination solutions, as well as limiting the amount of liquid waste generated as a result of decontamination/treatment activities to the extent practical. This waste stream volume will fluctuate greatly depending upon decontamination and treatment activities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: WSCF/WSCF, LERF/ETF **Waste stream** LERF/ETF

Treatability/aggregated group identifier LERF/ETF Liquid Waste

Treatability/aggregated group name: LERF/ETF Liquid Waste

1.2 Applicable profile number(s) for this waste stream:

N/A

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

This waste stream is generated from analytical process' within the laboratory. The aqueous based wastes are generally comprised of acids, bases, and other toxic constituents. The resulting liquids are drummed and shipped to the ETF for treatment.

1.3.2 History of how and where the waste was/is generated:

WSCF has been sending waste to the ETF for the past 2 years for treatment and disposal. The waste is generated as a result of laboratory operations.

1.3.3 Source of the hazardous constituents

The hazardous constituents are derived from listed waste sample contribution and or the addition of reagents during the analytical process.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Information to characterize this waste stream is obtained from both process knowledge and analytical data.

1.3.5 Additional notes:

WSCF waste is managed in a SAA or a 90 day accumulation area. WSCF has no TSD unit.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

WSCF waste is managed in a SAA or 90 day accumulation area. WSCF has no TSD unit.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed into storage:

N/A

2.2 Inventory locations:

Building/room number	Number of containers/tanks
N/A	N/A

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 0

Date of inventory values: 12/31/2000

Comments on waste inventory: See section 2.6

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? 0

When is this capacity expected to be reached? N/A

Bases and assumptions used: WSCF does not "store" waste as it has no TSD.

2.5 Planned management areas for storage of this waste: ☐ Current location ☐ CWC

☐ DST ☑ Other area(s) list: LERF/ETF

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	1.040		
2002	1.040		
2003	1.040		
2004	1.040		
2005	1.040		
Totals	5.200		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: N/A SAA/90-Day Accumulation Areas Only

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

N/A

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 1996

If yes, provide document number or other identification: Return on Investment. Waste Water Feed Reduced by Removal of Chloride. Tracking Code Number YP219

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

None ETF has changed it's acceptance criteria and this waste stream is now acceptable as is without removing chlorides. No other waste minimization has been identified for this waste stream.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0 kg

3.3.2 Projected future waste volume reductions:

Year m3 and/or kg

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2001	0.000	0
2002	0.000	0
2003	0.000	0
2004	0.000	0
2005	0.000	0
Totals	0.000	0

3.3.3 Bases and assumptions used in above estimates:

No waste minimization techniques for this waste stream has been identified. The return on investment for reverse osmosis is no longer in effect as ETF changed it's acceptance criteria and now accepts the wastes with higher chloride content.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability group/aggregated stream identifier: MLLW-01

Treatability group/aggregated stream name: LDR compliant waste

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

WSRds: BLS, 903, 930, 931; Waste with WSRd BLS consists of soils (dirt, sand, gravel, rocks, etc.) that were excavated from the various waste tank farms. The waste was incidentally contaminated with tank waste; therefore, the waste is designated with F001 through F005 based on the "contained-in" policy. The waste is typically packaged in drums and boxes. Remaining WSRds include waste that consists of soils (dirt, sand, gravel, rocks, etc.), treated debris, other particulates, and solidified liquids. All waste forms are anticipated to contain LDR compliant levels of dangerous waste constituents. Subject waste also includes the currently stored inventory of LDR compliant 183H Basin wastes and the forecasted long-length contaminated equipment (LLCE) items forecasted to be received from SST/DST systems.

2.0 WASTE STREAM INVENTORY AND GENERATION

2.1 Current total inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 1,338.026

2.2 Estimated generation projection by calendar year

Year	m3	and/or	kg
2001	22.406		
2002	22.170		
2003	22.170		
2004	22.170		
2005	22.170		
Totals	111.086		

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological characteristics

3.1.1 Mixed waste type ☐ High-level ☐ Transuranic ☑ Low-level

3.1.2 Handling (as currently packaged/stored) ☑ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific content, treatment concerns caused by radiation, confidence level):

This waste is a general category based on dangerous waste characteristics, hence, the radiological characteristics are expected to vary greatly. However, there is high confidence that the waste is MLLW. The LDR compliant treatability group will consist of both RH and CH waste packages.

3.2 Matrix characteristics (physical content)

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2.1 Matrix constituent table (each constituent listed should constitute at least 1% of the total volume or mass)

Matrix Parameter Category Code	Matrix Constituent Description	Typical or Range (%)
S5400	HETEROGENEOUS DEBRIS	10-30%
S3121	WASTEWATER TREATMENT SLUDGES	<5%
S3100	INORGANIC HOMOGENEOUS SOLIDS	<5%
S4000	SOIL/GRAVEL	5-15%
S3150	SOLIDIFIED HOMOGENEOUS SOLIDS	25-75%

3.2.2 Confidence level for matrix characteristic data in Section 3.2.1:

☐ Low ☑ Medium ☐ High

3.2.3 Comments on matrix characteristics and/or confidence level:

Waste with WSRd BLS has a medium confidence level. The waste has been verified through the Backlog Waste Program per the Backlog Waste Analysis Plan (BWAP). A contained-in determination was approved for the subject waste by Ecology. The waste is acceptable for disposal into the LLW portion of Hanford's LLBGs after it is screened for PCB constituents. Waste with numerical WSRds (e.g., 903, etc.) meet the requirements of the Waste Specification System and has a high confidence level. If some of the waste does not meet direct disposal criteria (i.e., does not meet all LDRs), it will be reassigned into the appropriate waste stream that requires treatment (e.g., MLLW-02 through 10). This waste stream can consist of many different physical matrix characteristic types since it is based on LDR requirements for disposal of a dangerous waste. Although this waste meets RCRA and state LDRs, it may not meet all Low-Level Burial Ground disposal criteria (i.e., void space requirements) and may require repackaging or void fill prior to disposal.

3.3 Regulated contaminated characteristics

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☑ Non-wastewater ☐ Unknown

3.3.2 Regulated contaminant table including treatment requirements and UHCs, if applicable

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D001	Ignitable	Ignitable Charac.	***	***	DEACT & meet 268.48
D002	Corrosive	Corrosive Charac.	***	***	DEACT & meet 268.48

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State number	Waste description	LDR sub-category*	Concentration (typical or range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D009	TC-Mercury	Low Mercury	<0.20 mg/l TCLP	***	0.20 mg/l TCLP & meet 268.48
F001	1,1,1-Trichloroethane	Spent Solvent	<6 mg/kg	Analysis, Process Knowledge	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	<30 mg/kg	Analysis, Process Knowledge	30 mg/kg
F003	Acetone & Hexone	Spent Solvent	<160 mg/kg	Analysis, Process Knowledge	160 mg/kg
F004	o-Cresol & p-Cresol	Spent Solvent	<5.6 mg/kg	Analysis, Process Knowledge	5.6 mg/kg
F005	Methyl Ethyl Ketone	Spent Solvent	<36 mg/kg	Analysis, Process Knowledge	36 mg/kg
P029	Copper Cyanide	NA	10/0.32 mg/kg	Analysis	590/30 mg/kg
P030	Cyanides	NA	10/0.32 mg/kg	Analysis	590/30 mg/kg
P098	Potassium Cyanide	NA	10/0.32 mg/kg	Analysis	590/30 mg/kg
P106	Sodium Cyanide	NA	10/0.32 mg/kg	Analysis	590/30 mg/kg
P120	Vanadium Pentoxide	NA	32.3 mg/kg (max)	Analysis	STABL
U123	Formic Acid (Formate)	NA	366 mg/kg (max)	Analysis	STABL (equivalency)
W001	PCBs, DW	NA	2 ppm<[PCBs]<50 ppm	Analysis, Process Knowledge	<50 ppm
WP02	Persistant, DW	NA	NA	Analysis, Process Knowledge	None
WSC2	Solid Corrosive, DW	NA	pH >12.5	Analysis, Process Knowledge	None
WT02	Toxic, DW	NA	***	Analysis, Process Knowledge	None

LDR REPORT TREATABILITY GROUP DATA SHEET

*LDR subcategory marked NA if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).
**If the waste is not consistent in concentration or the concentration is unknown, this may not apply. Describe in Section 3.3.6.

3.3.3 List any waste numbers from Section 3.3.2 for which the stream already meets established LDR treatment standards

☑ List: For waste with WSRd BLS, all hazardous constituents are below the LDR limits. Furthermore, a "contained-in" determination was granted by Ecology to allow disposal of the subject waste into the LLW portion of Hanford's LLBGs. Waste with numerical WSRds (e.g., 903, etc.) meets all applicable LDR treatment standards including any applicable UHCs.

☐ No LDR treatment required (e.g., TRUM waste destined for WIPP, exclusion, etc.)

☐ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☑ Yes ☐ No ☐ Unknown If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☑ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range (ppm)

☑ <50 ☑ ≥ 50 ☐ Unknown

3.3.5 What is the confidence level for the regulated contaminant characteristic data?

☐ Low ☐ Medium ☑ High

3.3.6 Comments on regulated contaminant characteristics and/or confidence level:

Confidence level for this waste treatability group is high. Waste with WSRd BLS has been verified through the backlog waste program per the Backlog Waste Analysis Plan (BWAP). A contained-in determination was approved for the subject waste by Ecology. The waste is acceptable for disposal into the LLW portion of Hanford's LLBGs. The other waste has been verified via the WSS and is awaiting disposal.

4.0 WASTE STREAM TREATMENT

4.1 Is this stream currently being treated? ☐ Yes ☑ No

LDR REPORT TREATABILITY GROUP DATA SHEET

If yes, provide details: NA

4.2 Planned treatment

Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☑ No treatment required (skip to Section 5.0) ☐ Treating or plan to treat off site

☐ Treating or plan to treat on site ☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

NA

4.4 Treatment schedule information:

NA

4.5 Applicable Tri-Party Agreement milestone numbers (including permitting):

NA

4.6 Proposed new Tri-Party Agreement treatment milestones:

None

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☑ No ☐ Unknown

If yes, describe: NA

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment:

Contained-in determination for WSRd BLS, the backlog soils, allows this portion of waste stream to be disposed of in the low-level waste portion of the Low-Level Burial Grounds. A delisting modification for the 200LEF unit was submitted to Ecology in November 1998. This delisting modification if approved would allow for the disposal of P and U coded waste into Hanford's mixed waste trenches.

4.9 Key assumptions: NA

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include description, locations, milestone numbers, variances required, etc., as applicable)?

Hanford LLBG (LLW portion) is planned to receive the portion of this stream that has WSRd BLS. Other waste in this waste treatability group will be disposed of in mixed waste trenches located on the Hanford Site. The majority of the existing stored inventory of this waste treatability group is designated with P and U waste codes and came from the closure of the 183-H Basins. This waste cannot currently be disposed of until a disposition pathway is achieved for the F039 leachate that would be generated from the disposal unit.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 200 LEF/200 ETF, LDR Compliant **Waste stream** RCRA Powder, LDR Compliant

Treatability/aggregated group identifier: MLLW-01

Treatability/aggregated group name: LDR compliant waste

1.2 Applicable profile number(s) for this waste stream:

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

The ETF process generates secondary waste (dry powder) from the treatment of dangerous wastewaters from various generators on the Hanford Site.

1.3.2 History of how and where the waste was/is generated:

Secondary waste (dry powder) generated from the treatment of wastewater through the 200 Area Effluent Treatment Facility (ETF). The contaminants are destroyed or removed from the wastewater and dried to powder.

1.3.3 Source of the hazardous constituents

Wastewaters from various generators on the Hanford Site, for example, 242-A Evaporator process condensate, Mixed Waste Burial Trench leachate, WSCF laboratory wastewater, etc.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Wastewaters are characterized using analytical data and process knowledge in accordance with the RCRA Waste Analysis Plan for LERF/ETF.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☑ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

The waste was in the process of being generated.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed into storage:

08/2000 - 09/2000 for current inventory. This type waste has been generated at this location since 1995.

2.2 Inventory locations:

Building/room number	Number of containers/tanks
ETF	27 drums

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters): 5.6

Date of inventory values: 12/31/2000

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☑ Current location ☐ CWC ☐ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	6.000		
2002	6.000		
2003	6.000		
2004	6.000		
2005	6.000		
Totals	30.000		
2001	6.900		
2002	6.900		
2003	6.900		
2004	6.900		
2005	6.900		
Totals	34.500		

2.7 DOE Storage Compliance Assessment information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☑ Assessment has been completed. Reference to most recent assessment: 09/2000, A&E-00-ASS-07

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

N/A

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 01/2001

If yes, provide document number or other identification: During establishment of 200 ETF/242-A Evaporator Pollution Prevention/Waste Minimization Goals

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

The ETF removes contaminants from wastewater and dries them to a powder. The wastewaters are

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segregated and processed to minimize the generation of secondary waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

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1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: 222-S/222-S LDR Compliant Waste, Dangerous Mixed Waste Storage Area (DMWSA) **Waste stream** 222-S LDR Compliant Waste

Treatability/aggregated group identifier MLLW-01

Treatability/aggregated group name: LDR compliant waste

1.2 Applicable profile number(s) for this waste stream:

Waste that complies with State and Federal Land Disposal Restrictions. This waste is generated by analytical procedures, maintenance, 219-S operations. This is an inorganic solid non-acidic waste.

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

General maintenance, analytical procedure operations, Hot Cell operations and 219-S operations. This waste is LDR compliant because it meets the requirements in WAC 173-303-140.

1.3.2 History of how and where the waste was/is generated:

Analytical operations, 219S operations, and Hot Cell operations.

1.3.3 Source of the hazardous constituents

Hanford Generators (e.g. Tank Farms, K-Basins, N-Reactor Fuel, PFP). Unused sample, unused or expired standard or reagents.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Waste Stream Fact Sheet (WSFS), Container Disposal Request (CDR), Request for Sample analysis

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☑ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

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2.1.1 How was the waste managed prior to storage?

Per the Hanford Facility Dangerous Waste Permit Application, 222-S Laboratory Complex (DOE/RL-91-27 Revision 1)

2.1.2 Timeframe when waste was placed into storage:

3/1998-12/31/2000

2.2 Inventory locations:

Building/room number	Number of containers/tanks
HS-0083A	1
HS-0083B	1

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters):	0.416
Date of inventory values:	01/24/2001
Comments on waste inventory:	Inventory is based on Solid Waste Information and Tracking System (SWITS).

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity? _____

When is this capacity expected to be reached? _____

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☑ CWC

☐ DST ☑ Other area(s) list: Disposed of in the Mixed Waste Trench. A container may be temporarily stored in CWC.

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	0.390		
2002	0.310		
2003	0.310		
2004	0.310		
2005	0.310		
Totals	1.630		

2.7 DOE Storage Compliance Assessment information:

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☐ Assessment has been completed. Reference to most recent assessment:

☑ Assessment has been scheduled. Scheduled date: May 2001

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

NONE

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☑ Yes ☐ No

If yes, provide date assessment conducted: 9/2000

If yes, provide document number or other identification: "Operating and analytical procedures at 222S Laboratory", File: /p2oahtml/paperlesslab.htm, Web address: //apsql05.rl.gov/p2oahtml/paperlesslab.ht

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA:

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

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The 222-S Laboratory personnel minimizes waste by proper planning during Automated Job Hazard Analysis (AJHA) and pre-jobs and by optimizing the use of lab ware. Personnel constantly seek innovative opportunities to reduce waste by being aware of current waste minimizing technology.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 7.3 m3

3.3.2 Projected future waste volume reductions:

Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

DOE/RL-2000-79 "Pollution Prevention Accomplishments", document reported waste reductions for CY 2000. The waste reduction volume reported above in Section 3.3.1 is a total waste minimization volume for similar waste streams across the 222-S Laboratory; this waste stream may be a portion of what was reported. 222-S has no waste minimization goals for this waste stream; therefore, no projected future waste volume reductions are reported above in Section 3.3.2. However, the analytical process generating this stream is continuously evaluated for waste minimization opportunities.

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1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: BHI Surveillance and Maintenance Waste/BHI S&M Waste, LDR Compliant **Waste stream** BHI S&M LDR Compliant

Treatability/aggregated group identifier MLLW-01

Treatability/aggregated group name: LDR compliant waste

1.2 Applicable profile number(s) for this waste stream:

100-02, Step off pad waste

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Step off pad waste generated as a result of surveillance and maintenance activities in PUREX and REDOX

1.3.2 History of how and where the waste was/is generated:

Waste is generated while performed long term surveillance and maintenance activities at PUREX and REDOX

1.3.3 Source of the hazardous constituents

Hazardous constituents were introduced to the facility as part of operations performed on the Hanford site

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and some analytical data.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☑ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☑ Other (explain): Radioactive Material Management Area (RMMA)

2.1.1 How was the waste managed prior to storage?

The container is managed in an accumulation area in the RMMA

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2.1.2 Timeframe when waste was placed into storage:

Boxes are filled and sent to mixed waste trenches annually

2.2 Inventory locations:

Building/room number	Number of containers/tanks
REDOX	1 box
PUREX	1 box

2.3 Current inventory for this stream (stored waste only, not accumulation areas)

Total volume (cubic meters):

Date of inventory values: 12/31/2000

Comments on waste inventory: Waste is managed in accumulation areas prior to being shipped to CWC

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☑ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

2.5 Planned management areas for storage of this waste: ☐ Current location ☑ CWC

☐ DST ☐ Other area(s) list:

☐ None

2.6 Estimated generation projection by calendar year:

Year	m3	and/or	kg
2001	8.600		
2002	8.600		
2003	8.600		
2004	8.600		
2005	8.600		
Totals	43.000		

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed. Reference to most recent assessment:

☐ Assessment has been scheduled. Scheduled date:

☑ Other. Explain: PUREX assessment is scheduled for March 2003
REDOX assessment is scheduled for May 2003

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2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Section 8.0 of the Tri-Party Agreement

2.9 Has there ever been any non-permitted, unauthorized release of this stream to the environment?

☐ Yes ☑ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☑ No

If yes, explain:

2.11 Is further characterization necessary?

☐ Yes ☑ No ☐ Unknown at this time

If yes, provide details and schedule (also see treatment/characterization plan volume for further information):

If yes, provide Tri-Party Agreement milestone number(s):

2.12 Other key assumptions related to storage, inventory, and generation information:

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☑ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification: N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate NA: Has not been scheduled.

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials, etc.):

Waste generation is minimized by limiting the number of entries made into the facilities and following principles of volume reduction when performing maintenance activities in the facilities.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): 0

3.3.2 Projected future waste volume reductions:

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Year	m3	and/or	kg
2001	0.000		
2002	0.000		
2003	0.000		
2004	0.000		
2005	0.000		
Totals	0.000		

3.3.3 Bases and assumptions used in above estimates:

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1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Plant/unit name: CWC/CWC, LDR compliant **Waste stream** LDR Compliant Waste

Treatability/aggregated group identifier MLLW-01

Treatability/aggregated group name: LDR compliant waste

1.2 Applicable profile number(s) for this waste stream:

NA

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Backlog soils from around the waste tank farms, debris, particulates, and solidified liquids. All waste forms contain LDR compliant levels of dangerous waste constituents.

1.3.2 History of how and where the waste was/is generated:

Some of subject waste was generated in the early 1990s through various operation activities at the 200 East and 200 West DST and SST systems. Other portion of subject waste was generated and put into CWC storage in boxes and drums prior to the implementation of the Waste Specification System (WSS). It was at onsite locations and by offsite generators.

1.3.3 Source of the hazardous constituents

Portions of the waste were incidentally contaminated with tank waste. Other waste is equipment from operations and maintenance of DST/SST systems.

1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.)

Analytical data, process knowledge

1.3.5 Additional notes:

The backlog soils were selected as a direct disposal waste stream per DOE/RL/95-35, Direct Disposal Team Report (RL 1995a). The General past-practice and WSS LDR compliant waste is anticipated not to be restricted by LDRs; however, the waste will remain under dangerous waste regulation and be directly disposed of into a RCRA Subtitle-C disposal cell located on the Hanford Site.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

2.1 Current storage method

☐ Container (pad) ☑ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST